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EDITORIAL

IT is probable that all our readers know something of M. Emile Coué, whose recent visit to England attracted so much attention. But it is doubtful whether the general public, or even the majority of those who are interested in psychological subjects, have any clear idea of what constitutes his real contribution to the science of psychotherapy, or in what respects his methods and doctrines differ from the many systems of "faith-healing" and suggestive treatment which have been put forward in recent years.

At first sight there might appear to be little real difference between M. Coué's formulæ of "ça passe," or "Every day . . . I grow better and better," and those of other schools who instruct us to declare with faith that "There is no such thing as pain," or to assure ourselves that disease exists only in our own imagination. This superficial similarity seems to have led many people to regard M. Coué's procedure as no more than a new variation of an old theme, whereas, in our opinion, he has achieved a most signal advance and raised the whole subject of self-cure to a new and truly scientific level.

The essential difference between M. Coué's doctrine and other methods of "faith-healing" is, we believe, that the former has nothing whatever to do with faith. Whether M. Coué has ever stated this in so many words we do not know, but it seems a logical corollary to his great Law of Reversed Effort which is at the basis of all his work. This law states that just in so far as we make an *effort* to do or think or believe anything we necessarily imply also to a proportionate extent that there is some difficulty in the matter. As M. Baudouin says: "Voluntary effort essentially presupposes the idea of a resistance to be overcome."

Thus the declaration "I *will* get well" necessarily implies "I am ill," and in these matters the very effort itself automatically defeats its own ends. It follows, therefore, that if anything can be achieved by making suggestions to oneself at all they must be made with as little effort as possible.

This is so obvious that it is surprising that no one has thought of it before, but the same comment applies to many of the greatest advances, and, so far as we are aware, M. Coué is entitled to the whole credit of the discovery.

Now, although it is difficult to define "faith" in any really comprehensive way, there can be no doubt that in matters of this sort the attitude of mind demanded by the previous schools of faith-healing—as, for example, the belief that pain does not exist—does involve a very considerable effort on the part of the normal person; for such statements appear merely nonsensical, and their acceptance is a matter of great difficulty.

M. Coué, on the other hand, makes no such demands on his patients. His claims are not extravagant or contrary to reason; he does not say that broken legs or gun-shot wounds could be instantly healed "if only we had faith enough." He merely relies on the universally accepted fact that the processes of the mind profoundly affect those of the body—a proposition which no one would feel any inclination to dispute. In so far as an ailment is of mental origin, it will prove amenable to mental treatment, and even when organic lesions are concerned a suitable state of mind is likely to assist the recuperative powers of the body. We do not think that M. Coué would ever wish to claim more than this, but it is amply sufficient to put an immense healing power into the hands of all who care to use it, for it is clear that if only we can induce the proper states of mind in ourselves our resistance to all maladies and our power of recovery from them will, at least, be very much increased.

The question then arises of how, without involving *effort* which we know to be fatal to success, we can influence our own minds in the right way. M. Coué's answer is very interesting and curious. He tells us merely to repeat a formula, to repeat it passively—almost casually—to gabble it, and not to think about it. This may sound absurd, but really it is far from being so. We must repeat the formula passively, because if we do not the fatal "effort" will result; we must gabble it and not think about it, for otherwise we may think that it is not true. The principle may be recognised, perhaps, in the age-old use of incantations, *muntras*, and spells; it is certainly the same as that involved in modern advertising. The constant reiteration of a statement, as that "Pear's Soap is the Best," does ultimately induce some measure of acceptance of the proposition, and the particular way in which the statement is made seems to make no difference whatever to the result. Our own voice seems to be just as effective as that of someone else, or as the written words, and is perfectly competent to produce the required effect, provided that no counteracting factors are at work. After all, any force, however small, will move any mass, however large, if there is no opposing force, and although M. Coué's formulæ may seem slight and inconsiderable forces, their effect may well be great if the opposition to them be made small enough.

These, we believe, are the simple secrets of M. Coué's success, and their very simplicity marks them as the work of genius. Any charlatan can evolve an elaborate doctrine couched in high-sounding terms, and anyone can claim that if we do not understand it the fault is in our lack of faith and our worldly outlook: but only a great psychologist could have grasped the simple laws of mental life and have applied them as M. Coué has done.

THE EVOLUTION OF INSTINCT FROM THE STANDPOINT OF PSYCHO-ANALYSIS.

By Charles Baudouin.

I.

THAT the higher emotions represent an evolution of certain elementary instincts is a conclusion which cannot very well be denied if the theory of evolution is admitted. Nietzsche seems to have been the first, if not to draw this conclusion, at any rate to give it substance, to afford it the prominence and decisive stamp that his mind always impressed on things. No one with such a keen and impassioned insight had, until then, probed into the unacknowledged origin of our emotions, and thus laid bare what he calls the "fabrication of the ideal." It is for this reason that Nietzsche may be regarded as the great pioneer of the theory of psychological evolution which psycho-analysis is developing to-day. On more than one point of detail even, the explanations that he throws out have been recognised by the science of the subconscious, and his formulæ, far from growing old, are thus fresher than ever, in their provoking guise of paradox.

Human, all-too-human, marks the first of Nietzsche's efforts to investigate on these lines, a cruel effort against himself, in which he feels an evil joy in ridding himself of all intoxication. Nietzsche does not burn what he used to worship (that would have been too clumsy!) but he dissects it; and he proves, with a bitter laugh of triumph, that everything is human, all too human —that is to say, animal enough. From the outset, he strongly reproaches the philosophers with their "original sin"; they lack "historical sense" (Aphorism 2), exactly what the theory of evolution should intensify. "All that we require, and which can only be given us by the present advance of the special sciences, is a *chemistry* of the moral, religious, and æsthetic ideas and sentiments, as also of those emotions which we experience in ourselves in all the relationships great and small of social and intellectual intercourse, and even in solitude; but what if this chemistry should result in the fact that in this case, too, the most beautiful colours have been obtained from base, even despised materials? Would many be inclined to continue such research? Humanity likes to put all questions as to origins and beginnings out of its mind." (Aph. I.).

The last words already remind us of the psycho-analytical theory of *repression*, to which Nietzsche approximates still more nearly elsewhere: "How little moral would the world look without this forgetting! A poet might say that God had placed forgetfulness as door-keeper in the temple of human dignity." (Aph. 92). Here is certainly a functionary who wears almost the same uniform as the *censor* of Freud. And in the *Genealogy of Morals*, where Nietzsche would complete and synthesise the views expressed by fits and starts in *Human, all-too-Human*, we have a striking theory of active forgetting: "Forgetfulness is no mere *vis inertiæ*, as the superficial believe, rather is it a power of obstruction, active, and, in the strictest sense of the word, positive . . . a very sentinel and nurse of psychic order, repose, etiquette." (II. I.).

If a more careful observer should succeed in eluding this supervision, he will find things that are by no means edifying. He will conceive "the possibility of that particular sweetness and fulness, which is peculiar to the æsthetic state, having sprung directly from the ingredient of sensuality. Thus, sensuality is not removed by the appearance of the æsthetic state, as Schopenhauer believes, but merely becomes transfigured, and ceases to enter into consciousness as sexual excitement." (*Genealogy* III., 8). Thus there would be a kind of conservation of instinctive energy, with change of direction. "Every artist knows the harm done by sexual intercourse on occasions of great mental strain and preparation; for the most vital and those with the strongest instincts, experience, crude experience, is not necessary—but it is simply their "maternal" instinct which, in order to benefit the growing work, disposes of all the other resources, of all the energy and vigour of the animal life." (*Genealogy* III., 8). This change of direction is what psycho-analysis would call *sublimation*. And Nietzsche uses the same word: "Good actions are evil ones sublimated." (*Human*, Aph. 107).

The fundamental instinct, whose avatars form the most diverse emotions, is, according to Nietzsche, the "will to power." It is this which is disguised in pity; the latter is, moreover, "a consolation for the weak and suffering, in that the latter recognise therein that they possess still one power, in spite of their weakness, the power of giving pain." (*Human*, Aph. 50). But it is for asceticism that Nietzsche reserves the acid of his more bitter analyses. "That was the last pleasure that antiquity invented, after it had grown blunted even at the sight of beast-baitings and human combats." (*Human*, Aph. 141). He finds in all renunciation traces of repressed voluptuousness and cruelty. (*Genealogy* II., 1). And he agrees with the avowal of Novalis: "It is strange enough that the association of lust, religion, and cruelty did not long ago draw men's attention to their close relationship and common tendency." (*Human*, Aph. 142).

Such are the main outlines sketched by the genius of Nietzsche. Science, by quite other means, was soon to trace them in greater detail. The *Genealogy of Morals* was produced in 1887, the first works of Freud in 1893.

II.

Biologists were induced some time ago to renounce the dogma of immutable instincts in the animal species. Spalding proved *suppressions* and *transformations* of instincts in chickens (1873), Forel in ants (1874). William James afterwards introduced similar ideas into psychology, while drawing the educational conclusions which they involve.

The orginality of Freud consists in his having established a link between these two ideas of *suppression* and *transformation*. The instinct is only suppressed in appearance; in reality it is "repressed" and discharges itself in other forms; or, taking it the other way round, the instinct which is transformed is above all an instinct that has been thwarted. We thus discern a line of evolution.

The instinct that has engaged the attention of the Freudian psychology is the sexual instinct. Freud regards is as a number of secondary tendencies (auto-eroticism, homo-sexuality, "algolagnie," or sado-masochism, visual pleasure and exhibitionism, etc.) which, grouped around the principal tendency (sexuality, proper) exist to some degree even in the normal. The psychological history of this complex instinct is traced by Freud in his work: *Drei Abhandlungen zur Sexualtheorie.* If the principal sex-tendency is repressed, the instinct is turned aside into one or more of the secondary components, and a *perversion* appears. Perversions are too readily considered as physiological and innate; the methodical analysis of the unconscious more often shows that they are psychological and acquired, and even curable by this analysis. Thus, for various rather obscure reasons of shame, respect, etc., sexuality may be violently repressed in a man who, in his childhood, has been particularly attracted (Freud says "incestuously" attached) to his mother. This repression may determine a homo-sexual perversion capable of disappearing if the subject is made conscious of the primary cause, itself repressed and hidden in the subconscious. The same phenomenon may occur in a woman very attached to her father.[1]

But the perverse tendency is often repressed in turn (it may become quite unconscious, and only appear in dreams, and then in a more or less disguised form). Then the instinct seeks new derivatives. The neurosis is one of them, and every neurosis appears to Freud to be a specific perversion that has been denied and turned aside; hence the formula: "A neurosis is the negative of a perversion." But the derivative may also be found in a less unpleasant channel, in a moral, æsthetic, intellectual, religious direction. It is then that Freud speaks of a *sublimation* (Sublimierung); it is a successful derivation, just as the neurosis is one that has failed. Only in this way should the formula that has made such a stir among the psycho-analysts be understood: "A neurosis is an unsuccessful work of art; a work of art is a successful neurosis." It is not here meant to characterise the work of art as a pathological act, for the sole fact of failing or succeeding is perhaps what really distinguishes the pathological from the normal: the latter is a successful adaptation.

Primitive sexual energy thus appears as a stream divided into several branches which can converge and separate; a barrier opposed to one of them may drive the stream back into the side branches, and may force it to start new derivatives. It is in order to express this conservation of a stream of energy, in some way quantitative, that Freud has resource to the conception of *libido*, a rather elastic concept, and rendered the more obscure by the fact that his disciples have used it in a different sense. If, as has been observed, the word cannot always be understood in the same sense, we must not blame Freud, for the "libido" denotes a reality in evolution. Jung shows that this conception widens in the degree that Freud perceives more numerous connections between the sexual and other elements. If a simple definition of "libido" is possible, it would seem to be as follows: Sexual energy considered in its faculty of transformation and evolution. In this sense, it may be said that the libido partakes of such and such higher emotion, just as one may say that the skeleton of Plato retains a vestige of the simian tail. But Freud warns us that he does not hold the view too often attributed to him, that sexuality is omnipresent. He explains himself clearly on this subject in a letter to Claparède (1921).[1] He distinguishes between the *sexual instincts* and the *personal instincts* (Ichtriebe); the word "libido," as he uses it, only denotes the special energy of the first, and it is not impossible that the others also contribute, by their evolution, to the birth of the higher emotions.

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[1] Freud gives a typical example in his study: "Über die Psycho-genese eines Falles von weiblicher Homosexualität" (Internationale Zeitschrift für Psychoanalyse, 1920, VI.).

III.

The theory of Adler[2] is based on the reserve made by Freud in favour of the Ichtriebe. According to Adler, the fundamental instinct which is concealed under the most evolved emotions, is the instinct of preservation, or rather of the expansion of the personality, an instinct analogous to Nietzsche's will to power.

The neurosis is a means of dominating the environment, awkward and onerous, it is true. A boy, pampered because of his sore throat, develops symptoms of asthma, and so, subconsciously, makes everyone a slave to him. And it may be observed here, in passing, that it is dangerous to pamper invalids too much, by multiplying agreeable remedies; for that is just what encourages the invalid, without thinking about it and quite innocently, to cultivate his illness like an allotment. In considering the will to domination of the child, Adler does not overlook that of the mother, who may spoil her childen in order, in reality, to tyrannise over them. Complaints, and especially the complaints of the neurotic, are made in order to affect others, and thereby weaken them, and any kind of solicitude may be an act of disguised authority.

It often happens that the same fact is regarded by Freud as a function of the sexual instinct, and by Adler as a function of the instinct to dominate. This disagreement should not make us sceptical with regard to the method of psycho-analysis. The investigation of the subconscious establishes positive relations between certain facts, but these relations allow of different interpretations. Adler perceives in the dreams and fantasies of the neurotic the same relations as Freud, but, according to him, the sexual allusions are here only a *modus dicendi*, a "symbol" of the pre-occupation with power. A woman, for example, absolutely denies her feminity, going even so far as to refuse maternity. In this case Freud would speak of homo-sexuality; Adler would see a *männlicher Protest*, and the wish to play a masculine rôle in life would only be a will to power. The sexual attitude of neurotics would be influenced by the feeling of their weakness, and by the fear of normal sexual relations, in which they risk finding a "more powerful partner." They then feign a perversion, or they flee from all sexuality, or, on the other hand, become "Don Juans" or "coquettes" out of fear of the "single partner" who might happen to dominate them. If the critical age increases neuroses, it is because it creates a feeling of inferiority.

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[1] Appendix to Freud: "Psycho-analysis," Geneva, 1921.

[2] Adler: "The Neurotic Constitution."

It is necessary to notice that these disguises of the will to power are above all signs of impotence. And this brings us to another important idea of Adler's, that of *compensation*. The creations of the imagination, the "directive Fantasy" which directs a life, the ideal of each of us, and particularly the morbid ideal of the neurotic, are in origin psychical compensations to some organic inferiority. It is where we feel our vulnerable part, that our will to power seeks compensation. It is here the same with the instinct of power, as with the sexual instinct of Freud: where it is thwarted, it seeks and finds a derivative. This fact is illustrated in the case of the stammerer who dreamt he was an orator, and who, if he were Demosthenes, could become one. A visual weakness readily determines a "visual psychosis" (and, in fact, among the students of the art schools, the statistics reveal an astonishing percentage of visual anomalies).

Adler is a scientist related to a class of observers who are bitter and harsh in their view of human nature, such as La Rochefoucauld or Nietzsche, who takes pleasure in discovering "egoism" and the "will to power" behind all human feelings. But this view does not lead him into pessimism any more than Freud. Sexuality, according to Freud, may be sublimated. The same with the will to power also. The differences of the two authors should not make us ignore the parallelism. In both theories, the neurotic is one who is unadapted to the real, which is also the social, because he follows an egoistic principle: the "pleasure principle" according to Freud, "power" according to Adler. In both cases, it is the task of psycho-analysis to re-establish this adaptation. It does altruistic work. It is, according to Adler, an "education for social life" (*Erziehung zur Gemeinschaft*). This enables us to understand the effort of the Zürich school, and notably Jung, to construct a synthesis of Freud and Adler, and we can also understand how in this synthesis, which accentuated the features common to both Viennese scientists, emphasis has often been laid on the idealistic aspect of psycho-analysis, on its rôle as artisan of altruism. Such is the position of Maeder[1]; and it is also the view of the Swiss pastors, who have adopted psycho-analysis—in particular of Pfister, who insists on the educative aspect of the method,[2] and who devotes a study to it under the significant title: "Au vieil évangile par un chemin nouveau."

IV.

In order to arrive at a synthesis of the two systems, C. G. Jung begins by widening the Freudian conception of the *libido*. Proving that Freud himself had progressively enlarged the meaning of the "libido," he holds that this movement should be continued. "Libido" is applied to every tendency, including what Freud calls the group of the Ichtriebe. The libido of Jung could be defined as that of Freud, with the term "sexual" suppressed. It would be: Instinctive energy considered in its aspect of transformation and evolution. This psychical energy of the individual (it has been compared to the *élan vital* of Bergson) is divided between two directions: centripetal and centrifugal. Towards the ego and towards the world. They are, as it were, two mutually compensatory functions. According as one or the other preponderates in a person, he is an *introvert* or an *extravert*. The introvert will be more a person of thought, the extravert of feeling and action. In the former the *Ichtriebe* dominate, in the second the *Sexualtriebe*.

Jung's efforts has the great merit of seeking the unification of the ideas of Freud and Adler; but on the other hand it is not difficult to detect the amount of hypothesis there is in the identification of all the instinctive energies, re-united in the single concept of "libido." What can certainly be said, is that the synthesis of Jung is constructed on a philosophical, rather than a scientific basis, and from the point of view of science and experience, it may be asked if it would not be better to reconcile the theories of Freud and Adler on a definitely analytical basis. Already the two edifices of Freud and Adler appear as vast syntheses, which may reasonably be reproached with shewing a tendency to generalisations in the interests of a system, a tendency which explains their opposition.

Is the combination of these two theories into a still greater synthesis the corrective that should be employed? For the philosopher, perhaps; but for the psychologist, the inverse method seems to be indicated.

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[1] Maeder: "Guérison et évolution dans la vie de l'âme," Zürich, 1918.

[2] O. Pfister: "La Psychanalyse au service des Educateurs" (Trans. Bovet), Berne, 1921.

It is in this analytical method that Claparède is engaged, when he proposes to substitute for the conception of "libido" that of "interest." While libido claims to be defined by itself, and is constantly in danger of being understood as a kind of occult force, interest is defined as a function of the object of the tendency. And while the libido is supposed to be one, we are accustomed to consider *interests*, and not interest by itself—interest in hunting, in dancing, in studying; each tendency has its own. It means that if one adopts Claparède's point of view, one has already implicity adopted an analytical position.

The method to follow, then, would be to study the possible evolution of each instinct separately. It will not by any means be simply a question between an explanation by the sexual instinct, and an explanation by the power instinct. We willingly admit that those two instincts should be taken into account, and many others, if occasion arises. And nothing will be urged, *a priori*, against several instincts having contributed to the origin of the same higher emotion. English and French writers seem quite naturally inclined to state the problem in these terms.

English psycho-analysts have applied the Freudian methods to war-neuroses. Thus, according to Rivers, MacCurdy, and Culpin,[1] in this kind of neurosis, the instinct of preservation holds the place given by Freud to the sexual instinct in peace neuroses. The instinct of preservation in war is repressed by the censor (in this case, the military order) just as in ordinary life, the sexual instinct is repressed by the moral order. Culpin, more inclined to Adler's interpretations than to Freud's, claims to have found in his experience only one dream of the Freudian type, and only one case clearly sexual. But whatever the instinct invoked, the mechanisms involved are analogous. In the frequent case of amnesias following a shock (an explosion or bombardment) the rôle of the repression of a too painful experience is made evident; and it is exactly this *active forgetting* of which Nietzsche speaks. Many of the hysterical symptoms of war seem to have in common the characteristic of feigning infirmities (blindness, deafness, paralysis) which necessitate removal from the front. Anxiety-states, on the contrary, express a conflict between the instinct and the conscience which endeavours to control it. Thus, they are more frequent, according to MacCurdy, in officers, while the hysterical symptoms are more often developed in the ordinary soldiers. Whatever the outcome of the discussion may be, we owe to the English authors the outlines of a study of the avatars of the instinct of preservation.

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[1] Rivers: "The Repression of War Experiences" in Proc. Roy. Soc. Med., London, 1917-18. MacCurdy: "War Neuroses," Cambridge, 1918. Culpin: "Psycho-neuroses of War and Peace," Cambridge, 1920.

Pierre Bovet, in his book on *l'Instinct combatif*,[1] inclines rather to the standpoint of evolution. He arrives at the instructive result of being able to verify in the fighting instinct what Freud affirms of the sexual instinct. The fighting instinct may disappear if it has not been exercised—chiefly by combative games—at the normal time of its appearance, that is to say, during childhood; it may also be thwarted later. But the instinct, apparently suppressed, is in reality transformed. It is diverted into sport, intellectualised in less violent games such as chess, and in the study of history. It is idealised in the epic genius, and in moral struggle. We can, therefore, speak, as Freud, of *sublimations*. The diverted or sublimated instinct betrays its origin moreover by metaphors of fighting. In the same way, Saint Therèsa transfers erotic metaphors to mysticism, and Loyala, once a soldier, retains the language of a soldier when he becomes a warrior of God, and founds his "company of Jesus" on the model of an army. The "Salvation Army" provides a still more striking example. Similar monographs devoted to other instincts would be very desirable.

Thus are laid the foundations of a study of the evolution of the instincts. That the higher emotions are the result of this evolution is an idea which still scandalises a good many; but their minds will necessarily grow accustomed to it, just as they have been for a long time to the idea that man is the result of the evolution of animal species. Further, these two ideas are indissolubly united. But origin should not be considered as identity. Even a finalist philosopher may accept the evolution of the instincts as he does that of the species; the dynamic point of view only compels him to put his fundamental problem, that of matter and form, in dynamic terms also. And this has been understood by Maeder: "I distinguish clearly therefore," he says, "by the side of the *energetic* factor (which forms the essence of the concept of the *Libido of Jung*), a factor which is co-ordinated with it, that of *direction* (orientation). From the static point of view the *content*, the *form*, are rightly distinguished; here it is necessary to distinguish the stream (the energy) and the direction."[2]

Evolutionary science confines itself to describing the successive forms of reality which is transmuted, without claiming to give the reason behind the successive transformation.

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[1] Neuchatel and Paris, 1917.

[2] Maeder: *Op. cit.* "Guérison et évolution la vie de l'âme."

EVOLUTION AT THE CROSSWAYS.

BY H. REINHEIMER.

> *"One and the same law runs through Nature and the mind of man."*—EMERSON.

[*Prof. Bateson, recognised leader of the Mendelian school of biology, has recently pointed out that whilst the fact of evolution is not in question, the problems of the origin of species are still unsolved. In a paper on "Evolutionary Faith and Modern Doubts" (Americ. Assoc. at Toronto,* 1921), *he concluded that the claims of natural selection as the chief factor in the determination of species has been discredited; that the doctrine of the accumulation of impalpable changes has become not only improbable but gratuitous; and that no progress has been made with regard to evolution. These circumstances lend a special interest to Mr. Reinheimer's views embodied in the article printed below.*—ED., *Psyche.*]

THERE is an increasing reluctance in our days to accept the theory of natural selection as an explanation of how new forms have arisen from old.

In "Science Progress," July, 1917, Mr. Hugh Elliot foreshadowed that "the future historian of science will perhaps consider it [natural selection] as a great scientific hoax of the nineteenth century, and will find some pleasant scope for satire in the circumstance that the public will not be induced to believe in a true theory [evolution] until it is presented to them securely established on a false basis."

According to Dr. D. H. Scott, an eminent botanist, speaking as president of the botanical section of the British Association at Edinburgh, 1921, the advent of "Genetics" definitely marked the end of "the Darwinian epoch," and "all is again in the melting pot."

The ascendancy of "Genetics" is due to the efforts and results of the so-called Mendelian school who set out to tackle the puzzling problem of "Variation." This school has shown itself more progressive and more enthusiastic than those biologists who were content to bathe in the sunshine of Darwin's prestige, and who endeavoured to establish a kind of Darwin cult, hostile to new ideas.

The *Times* (13/9/21) made the following comment on Dr. Scott's address: "Darwin collected a great body of evidence on variations, and discussed many possibilities as to agencies which might produce them, and as to their behaviour in the chain of life from grand-parents and parents to children and grand-children. It is true that some of the interpretations to which he inclined are unfashionable just now. But it is also true that there is now no greater certainty than in the time of Darwin as to the causes or the inheritance of variations. But that is a charge which can be brought more justly against ourselves than against Darwin who continued to insist on the absence of and need for exact knowledge of variations."

The writer of the leaderette evidently wishes it to be understood that natural selection has subsided only for a time. By tacit implication he arrogates flawlessness to Darwin's system, which, as he seems to suggest, merely suffers from a new but transitory fashion. As soon as the new fashion wears out, we shall return to the true God-given law. That some of Darwin's teachings might have been merely "fashionable" does not seem to occur to him at all. He seems, however, to admit some blame of unprogressiveness on the part of Darwin's disciples.

But variation is not the only important subject that Darwinian orthodoxy has neglected. There are others, and their closer study reveals discrepancies in Darwin's theory even more formidable than those brought to light by Mendelism.

Here is a list of such subjects:—Evolutionary progress; evolutionary success; extinction; the mutual relations of organisms; co-operation; compensation; correlation; evolutionary physiology; evolutionary pathology.

Evolution will never get very far so long as these subjects are neglected. No one realising their importance would expect natural selection to be more than a provisional hypothesis. Unfortunately, Darwin felt a kind of paternal predilection for this theory, with the result that many zoologists, as a kind of recognition of their great indebtedness to him, felt in duty bound to adhere to it, or at least to defend it against attack--their loyalty to science being second to that to their master. They usually remonstrate that his is a good working hypothesis, that it is so simple. You have but to show that a structure, or a habit, has a use, be it never so evil, and you have proved "evolution" according to natural selection. Natural selection is a principle beyond good and evil, not dissimilar in this respect to the gods of ancient Greece, who, as Goethe put it poetically, held eternal dominion in their hands to wield it as arbitrarily as they liked.

The *Times* concludes the aforesaid article thus: " Subsequent scrutiny of Nature has supplied many other suggestions, but so far few of these have been acceptable to any except their proposers."

The question is whether these new suggestions have been duly considered. There are none so blind as those who will not see. The history of " Evolution " bears out Goethe's words that the revealers of new knowledge are usually left to die on crosses. How many biologists recognised the value of Samuel Butler's biological writings during his life-time? But very few; and these, with one commendable exception, said nothing—a conspiracy of silence.

How many saw the importance of the Abbé Mendel's work? None, although the professionals are now building themselves up, one by one, on his estate. One half of modern biology may be said to go back to the Rev. Malthus; and the other to the Rev. Father Mendel. *Sic itur ad astra.* One fails to see why science and theology should be so irreconcilable as they are sometimes represented to be.

The profounder probing of evolutionary problems involves some complex sociological and physiological issues, the study of which is, as a rule, not congenial to Selectionists, who have found it easier to rely instead upon dialectics: " elimination," and " preservation." What is not " eliminated " is " preserved "—*voilà tout!* A few zoologists, to their credit, have demurred to such fictitious self-sufficiency. " Too often in the past," says Prof. E. B. Wilson, a leading American zoologist, " the facile formulas of natural selection have been made use of to carry us lightly over the surface of unsuspected depths that would richly have repaid exploration."

The writer has been an opponent of natural selection, though not of evolution, now for some years, and has endeavoured to provide an alternative theory. That his views have carried some conviction may be gathered from the admissions of (evidently Darwinian) critics (a) in *Discovery*, (b) in the *Manchester Guardian*.

(a) " Now Mr. Reinheimer is right in a number of very important points. He has seen the wood that so many professional biologists fail to perceive for trees—he has a clear idea of biological progress; and he has gone further than that, and stressed in a very original and suggestive manner the value of biological co-operation, of symbiotic modes of existence, for achieving such progress."

(b) " Now in this [Symbiosis and Symbiogenesis] we at once confess that we have a conception illuminative over a large section of the evolutionary field, and, once pointed out, its neglect by past thinkers is almost startling."

As is well-known, natural selection is based upon the struggle for existence, which "struggle" is to include, according to Darwin's own definition, the important factor of the mutual relations of the inhabitants of the globe. On the importance of this factor Darwin insisted even more than on that of "Variation." Yet, to this day, his followers plead with him profound ignorance regarding this vital subject. Natural selection is therefore based upon partial nescience. How can there be any reliability or finality in it?

Let us turn from the subjects of variation and mutual relations to that of evolutionary progress. Progress is a *non-sequitur* on Darwin's theory. "It is quite possible," says Darwin, "for natural selection gradually to fit a being to a situation in which several organs would be superfluous or useless; in such cases there would be retrogression in the scale of organisation." That is to say, natural selection is to be conceived as a dual principle: at once one of progress and of retrogression. Once, however, the true inwardness of evolutionary progress is seen, it will be realised that there is no such dual principle in nature, but that there are two opposite and well-contrasted principles which come into play in progress and retrogression respectively—a distinction which it is of the utmost importance to make.

Again, Darwin stated that "the survival of the fittest does not merely include progressive development," and that "he could not see good evidence of a tendency towards progressive development in organisms."

In other words, Darwin's theory is too exclusively mechanical and morphological: it is to account for change *per se* rather than for a change in a sociological or socio-physiological sense. It lacks criteria of progress, or status. It fails to recognise the eternal difference between right and wrong.

Instead of admitting these glaring deficiencies, Selectionists as a rule invert progress when it is found convenient to do so, and, worse still, deny morality and values to organic evolution altogether. The one vital issue, which obviously and imperatively requires sociology and socio-physiology, namely, "mutual relations," remains conveniently stowed away as an "unknown"—an instance of how simplicity of theory is contrived notwithstanding advance in other directions.

Now let us look for a moment at the subject of evolutionary success. It is a backward subject, as eminent biologists tell us, because it involves issues that are too complex. It does not readily lend itself to Darwinian simplicity. It would require a panoramic view of life. A *tout ensemble* view, says one of these writers, would be the only right view, "but it is somehow difficult to make good science of it."

It is easier to remain on the surface of things satisfied with naïve definitions.

Darwin at least suggested that the survivors may survive, not because of single peculiarities, but because of their general stability and efficiency—an adumbration of sociological and physiological factors, of behaviour, which is now increasingly emerging as of prime importance amongst factors of evolution.

In the present writer's view, it is only in terms of behaviour that success and failure in evolution can be adequately expressed. Because a species is merely changed ("naturally selected") it is not thereby "evolved" in any true sense of the word. What an organism is depends on what it does; its activities make it.

The theory of natural selection is supposedly mechanical; but—such is the irony of things—it cannot help making at least occasional use of sociological factors. In order to save the mechanical face of the theory, however, Selectionists have found it incumbent upon them to impute a very low kind of morality to nature—low enough to approximate the ruthlessness of elemental forces. Mere cold-blooded expediency: this is all that is to be conceded to the economy of nature, according to the Darwinian scheme.

This view is entirely unwarranted by the large facts of nature stripped of misleading detail, as will be seen in the sequel.

Mere expediency could never have produced the exalted results of organic evolution such as we know them. The universe which has begotten man and his values fully deserves the attribution of a better character, as even a closer scrutiny of the facts usually adduced as evidence for the Darwinian view will show.

> "Immense have been the preparations for me
> Faithful and friendly the arms that have help'd me."

The grounds on which Darwin founded his optimism with regard to evolution are little calculated to inspire confidence. He tells us that since the principle of selection is so potent in the hands of man, it must apply with greater force in nature—a very questionable ground for optimism. For no one has shown with more talent than Darwin himself that the effects of selection by man are inferior, and, in fact, pathological.

We are entitled to conclude—what is fully borne out by the results of recent palæo-pathology—that wherever "selective," or similar, methods apply in nature (operating for long periods of time, and often in more unfettered ways than in domestication) the results will be even more potently pathological. Hence the causes of evolutionary success and the grounds for optimism must be looked for elsewhere. They cannot be founded upon "Selection."

Dr. Scott states that there is a strong tendency in these days to admit natural selection only as a merely negative force, and that as such it has even been dismissed as a truism.

The present writer contends that it is a superficial, lop-sided theory, since it is based chiefly upon negative factors, ignoring the positive, which are the more important.

It is intelligible to-day that there had to be in Darwin's theory a lack of comprehensiveness. The material was far too scant. Moreover, the pioneers of evolution were too busy with the fact that animals descended with modifications at all, to go beyond the development and illustration of this great truth. It is not to be denied, however, that Darwin, in spite of his handicaps, threw out valuable suggestions, often going beyond the scope of his theory of natural selection. He was a great biologist, and few factors of evolution entirely escaped his ken. It was in the assessment of their relative values that he erred, and this chiefly as the result of the then backward state of science.

Anyone familiar with his works will remember with what avidity he fastened upon what little help physiology, for instance, could afford him. He keenly relished Milne Edwards' "physiological division of labour"; Claude Bernard's idea of the autonomy of the organs; Virchow's and Sir J. Paget's views on the cell-theory and on the independence of the elements of the body. He approved of Herbert Spencer's economic parallels illustrating the correlation of growth in the organs.

Here were at least the fundamentals for a socio-physiological theory of evolution. But the material was still too sparse for its fuller enunciation. It is, however, significant in this direction, as providing a clue to the most hopeful line of progress in modern evolutionary science, that Darwin's theory of "Pangenesis" is to-day commending itself rather more widely than that of natural selection. Pangenesis, I would emphasise, was largely based upon the aforesaid views of contemporary physiologists regarding the autonomy, independence and inter-dependence of the organs of the body.

Now this inter-dependence of the organs is the very thing just now to arouse the wonderment of physiologists. They have been forced to the conclusion that what happens at one place of the body is in consonance with what is occurring at another, that, in fact, every part acts more distinctly for the good of the whole than for its own advantage. In other words, modern physiology reveals a kind of physiological or bio-morality. For it is usually recognised that moral action consists in the renunciation of personal gratifications for the sake of a social end. If the parts fail duly to co-operate, then disease and inferiority inevitably ensue.

Physiology is driven to the recognition of the "law of the members," although many scientists hesitate to admit the fact, lest they be accused of metaphysics. They fight shy of an approximation to religious views, as though these were not often based merely on scientific experience. Science is afraid of rceiving back its own at the hands of religion—an attitude for which, of course, the obscurantism, which, we all hope, is of the past, has to be blamed.

With the advance of modern physiology, then, co-operation is increasingly coming into its own. But Nature knows no watertight compartments. Not only is it true that organs are semi-independent organisms, co-operating " at home," they also co-operate " abroad." That is to say, organs and organisms are involved in a common sociality, are jointly and severally, under a basic law of concord. There is no " pure " physiology, *i.e.*, a science of the relations of the parts, which could be interpreted exclusively in physico-chemical terms. Invariably there is an important admixture of sociology. The work of the organism may be finally based upon chemical energy. But this chemical energy is directed by something else which is not itself a chemical energy, and which is associated with the organic synthesis which that energy serves to maintain. Physiology and sociology are eternally inseparable. They form an indissoluble amalgam.

Hence the need for a socio-physiological science, involving a simultaneous study of sociological and related physiological and biological activities together with recognition of values in the results of these activities. Socio-physiology will bring into rational unity physiological phenomena with those appertaining to the inter-dependence of life. It alone is competent to deal at all comprehensively with the evolutionary problem.

Had there not been a serious and unavoidable hiatus in Darwin's theory on the score of socio-physiology, he would have had fewer difficulties with the problem of extinction, regarding which he frankly declared himself puzzled. Millions of species in the past have done all that could be required of them according to natural selection. Had they not "struggled," changed, and become "adapted"? Had they not become formidable and even, for a time, "successful"? Yet they ended dismally, whilst others kept on flourishing.

The suspicion naturally arising that the failing species had transgressed against sociological law, that they have lived illegitimately at the price of future ruin, is hardly to be resisted, although it may be rejected as "metaphysics"—a counsel of despair—by those who have no alternative view.

Darwin at least surmised that liability to extinction may be due to "lack of improvement according to the principle of the all-important relations of organism to organism in the struggle for life."

This is at any rate a faint adumbration of the view that bad behaviour is the source of the evil, and, as such, it is certainly an advance on natural selection. It is a suggestion of a vital, though mysterious, element of progress contained in "mutual relations." Lack of this vital element spells inferiority and disease. Somehow (to continue Darwin's visualisation of a great socio-physiological truth) the organism has to be fruitful in its relations with others, lest it forfeit its place in life. Stability, efficiency, and permanence depend upon a satisfactory relatedness, whatever it may be, to the web of life. The organic world seems to go forward as a whole. Hence all organisms are under necessity to maintain a respective social nexus on pain of being estranged from inter-connected, inter-determined, progress and thus rendered liable to extinction.

That such or similar considerations were not at all foreign to Darwin's mind, may be inferred from his other suggestion that the diversification of organisms in a given district had much the same advantages as the division of labour in the body, which, as we now see, is a monument to co-operation. So he pointed out that "after long intervals of time, the productions of the world seem to have changed simultaneously"—another hint at inter-connected progress.

Can it be true, after all, that the cardinal necessity of life is not so much for the organism to fit itself merely expediently to any and every condition, but rather to strive towards the achievement of the purposes of life by obedience to some sublime law of inter-dependence and of inter-determination? That a life aiming merely at self-sufficiency receives no encouragement from Nature?

The writer fully believes that this is so. He has designated the respective progressive principle of evolution: Symbiogenesis, by which he means the direction given to evolution by the long-continued operation of Symbiosis in the production of higher forms of life, and in the more complete development of beneficial relations between them. Obedience to this law is more important in progressive evolution than mere adaptation. The adaptability of protoplasm is a necessary condition of evolution; but when the organism degenerates as a whole, we are driven to conclude that in the majority of cases when the organism fails apparently as a result of mechanical or similar obstacles it encounters, these obstacles have not been duly provided against on the psychical side. The cause of failure, in other words, resolves itself into this: transgression of the law of co-operation, of reciprocity, of compensation—in short, a divorce from Symbiosis. *Res nolunt diu maleadministrari.*

By maintaining Symbiosis the organism is apt to draw to itself those "great allies" to which Wordsworth and Emerson alluded: the powers for good implicit in the nature of the world.

We are by no means entitled to sit still and wait until the current of evolution bears us comfortably along. Our psychical nature has to be attuned to the cosmic will. And there is no escape for organisms either. There are biological sins of commission and omission. Nature has her revenge upon neglect as well as upon excess; misuse, with her, is as mortal a sin as abuse. Many monsters of the past have played for anti-social self-aggrandisement to their own extinction, and the existing types that play a "lone hand" are penalised in many more ways than has hitherto been thought of. Intense individualism, although abundantly evident, is what one might term a "back number." But co-operation is in the line of success; it, so to speak, expresses the soul of things, and we must learn to estimate the morality of nature by its main tendency, not by its occasional divagations.

Darwinism had so greatly over-stressed the "struggle for existence," and under-estimated co-operation, that it was ill-prepared for the reception and appreciation of Symbiosis. Some derided the very idea. One biologist denounced the discovery of partnership in the case of the association between alga and fungus, forming the dual plant: the lichen, as worthy of inclusion only *inter historias ridiculas,* among absurd tales; another rejected the whole subject as a "Romance of Lichenology," or "the unnatural union between a captive Algal damsel and a tyrant Fungal master."

Symbiosis seemed to cut the ground from under their feet. No wonder, in building further on Symbiosis, one is met even to-day by the charge of exaggerating the importance of the subject.

Lichenologists, however, have strengthened and consolidated their position with regard to the truly co-operative nature of lichen-symbiosis; and to-day it may be said without exaggeration that Symbiosis bids fair to occupy a place of prime importance in science—a triumph alike to co-operation and to truth: *magna est veritas et praevalebit.*

On the morphological side, the battle for Symbiosis is won. On the socio-physiological, it cannot even be said that issue has been seriously joined—so great is the reluctance to tackle the subject in view of the backward state of science. Yet the problem of the payability of Symbiosis, requiring a comprehension of organic reciprocity, organic compensation, and organic relatedness generally, is one of the utmost importance in the whole range of biology.

Symbiosis has been defined as partnership between organisms belonging to different species. But the partnership is not narrowly dependent, as has been believed, on physical attachment of the partners. It is, in fact, generally more effective without such attachment. There is a symbiotic relationship throughout Nature, which is distinguished by what the writer has termed bio-morality, and which makes for health and success. This, and the fact that organisms which are not symbiotic, are subject to grave disabilities, justifies the idea of a sociological basis in the scheme of things.

In close symbiotic relations, normally healthy, there is always the possibility of a partner playing traitor, by taking undue advantage of its favourable situation. This leads to degeneration. The "evil uses" of nature are original "good uses" gone to the bad. The parallel between (biological) Symbiosis and the "physiological division of labour" between the organs of the body, is so close as to warrant the term "internal Symbiosis" to be bestowed on the reciprocal differentiation, the co-operation, of the organs. Symbiotic partners must be of the highest integrity, or disorder will ensue. Degeneration compasses degeneration, as the study of correlation shows. The plant-assassin (see the writer's article on "Plant-Assassins and their Nemesis," in *The World's Work*, July, 1921) easily turns carnivore; the carnivore eventually turns cannibal; the parasite becomes a mere automaton, feeding and reproducing. Parasitism is the opposite pole to Symbiosis. It entails a disregard of evolution, an evasion of the great law of work, and it, hence, suffers from many retributions. The ghastly forms of nemesis in parasitism are well known. The liability to penalisation on the part of other non-symbiotic organisms is less well-known; but it is nevertheless a fact, and one of profound significance to boot.

Symbiosis is a distinctive principle in nature, and it entails a definite pathway of life; the principle of *do ut des*, as distinguished from that of predacity. It involves forbearance with life, a steady and reliable disposition to social conduct, and, accordingly, considerable restraint in matters of food and reproduction. The good life, as Aristotle perceived, is not an easy affair.

An organism, in order to persist on the road of progress, must comply with many definite obligations. For instance, it must be a "cross-feeder," *i.e.*, it must seek its provender amongst the spare products of another kingdom; it must regulate its feeding habits, that is to say, in accordance with systematic partnership rather than according to chaotic depredation. Vast numbers of organisms there are in nature to fulfil more or less nearly these conditions; but the fact has hitherto passed unobserved and unheeded, although evolutionary physiology is now beginning to get a new orientation with regard to the biology of food (see the writer's article on this subject in *Science Progress*, October, 1921).

Overlooked also has been the important but unchallengeable fact that the progressive enrichment of the protoplasm is primarily due to Symbiosis. Before there could have been any progressive evolution of animal life on our globe, the soil had to be prepared by cross-feeding symbiotic plants, which acted as pioneers in organic society. The primal plant nutrients were inorganic (material for cross-feeding), although eventually, their further elaboration was rendered possible by division of labour and exchanges of surplus in Symbiosis. The animals, in their turn, and as the norm of life, maintained a symbiotic relation with the plants.

It was along with the invention of Symbiosis that the lowly bacteria acquired their wonderful power of fixing and elaborating atmospheric nitrogen, upon which our agriculture largely depends. Symbiosis was the means by which plants and animals rendered the water, and subsequently the land, hospitable for one another. Our leguminous plants work with symbiotic helpers (bacteria) in the soil, and so do most of our trees (with fungi). It is through their being symbiotic cross-feeders that the most wonderful of animals, the state-forming insects, have attained their excellence. It was by their vast capacity for Symbiosis that they achieved their success. *On no other basis would their achievement have been possible.*

Again, it was pre-eminently by obedience to the principle of reciprocity that the useful plants achieved their wide distribution over the globe (by animal agency) and that the animals in their turn obtained the means of sustenance and of dispersal.

Almost every day furnishes new evidence revealing the importance of Symbiosis. Thus Prof. R. S. Troup, M.A.C.I.E., in his quite recent book, "The Silviculture of Indian Trees," provides some striking cases of symbiotic reciprocity between animals and trees. He introduces us to the case of *Dillenia indica*, where white ants eat out the inside of the fruit, leaving the seed untouched, and fill the shell with earth, in which the seed germinates at the beginning of the rainy season. The seedling subsequently germinates, bursting through the cracks in the dried shell.

The ants here show themselves as clever silviculturists—as intelligent, cross-feeding, partners of the plant—and it is well-known that (on the same principle) they are also clever horticulturists, for they know how to grow their own mushrooms.

Again, in the case of *Cassia Fistula*, the pods are broken by jackals, monkeys, bears, and pigs. Without such (symbiotic) help, germination would be very uncertain.

This instance shows that the mammalia, too, are participators in Symbiosis, a fact which should be obvious enough in the case of man, and which is indeed borne out by other instances. Some biologists, however, even in admitting symbiotic adaptation, have treated it as a casual matter, and sometimes they have asserted that it applies to the lower ranks of life, although reaching as high as the birds. But symbiotic inter-linkage is universal and indispensable, and the alleged hiatus does not exist. Man himself is pre-eminent as the conscious symbiotic partner of the plant, and, I believe, no thinking about nature can be of any value until we have grasped and fully realised this fact. It should be remembered that species co-operate just as classes and nations co-operate in international exchange, as well as individuals in a town or a factory, and always with immense mutual advantage. The grain of cereals and pollen of flowers are specially prepared products serviceable first for home use, and also available for co-operation with the animal world, as special surplus manufacturers are available for export trade to the advantage of all concerned—services being rendered in exchange, as, for instance, distribution of seed, the saving of pollen as against wind-fertilization, etc. In the apple and plum, pulp, a special food, is manufactured for export alone in return for services. In the case of Dillenia, cited above, some embryonic food material has to be sacrificed by the plant to the ants, but inasmuch as they supply adequate compensation the plant is not injured thereby; it is, on the contrary, helped, being *inter alia*, protected against the attentions of more voracious animals, wont unsymbiotically to destroy seed and all. The whole case is, no doubt, one of Symbiosis. In the case of some other Indian trees, the seeds are so generally destroyed by insects that only such seeds are selected for sowing which have passed through the digestive organs of cattle, showing that there is compensation to the plant for the provision of a meal so long as it has useful partners. That this co-operation is unconscious is only parallel to the cognate process in the economic world where the individual trader or manufacturer hardly realises that he is co-operating in equating the balance of trade and serving his fellows as well as himself.

This then, is, in a nutshell, the divergence between the Darwinian and the socio-physiological view of evolution: the "Struggle for existence," a phrase used by Darwin in a metaphorical sense, is far too generalised a statement as an epitome of the general course of nature. It is merely saying that somehow by effort and under the stress of circumstances the organism did the thing—progress or no progress. Although there be plausibility in the view that necessity is the mother of invention, it is not enough to tell us that evolution was achieved by "struggling" and "adapting." Much more definiteness is required and can now, happily, be supplied. No one has hitherto known how much fitness is required to survive. Any and every kind of "fitness" was held to conduce to evolutionary success. And every line of behaviour has been thought good enough so long as it meant momentary ascendancy. Any and every kind of food has been thought good enough as a basis of progress. All this was unscientific and is now to be changed. The socio-physiological theory of evolution is free from the indeterminateness of the Darwinian jargon and of the indefiniteness of its concepts. It fully recognises necessity as the great taskmaster of life, but posits co-operation as the most fundamental of all necessities. In this, as in its teaching with regard to the required definiteness of food and of behaviour, it is in consonance with modern physiology and modern psychology, whilst Natural Selection is not.

"E'er Man was developed, our brother,
  We swam and we ducked and we dived,
And we dined, as a rule, on each other—
  What matter, the toughest survived!"

This, from Miss May Kendall's "Ballad of the Ichthyosaurus," says an eminent Selectionist, is true natural selection. In other words, it is a theory of fortuity, of mutual plunder—a theory of unreason. Symbiosis, showing force manifesting itself in orderly and harmonious fashion, is, on the other hand, a theory of Reason. Evolutionary anthropology traces the ancestors of the human race back to "Chimpanzoid," "Gorilloid," and "Orangoid" stocks, all of which are notable for absence of cannibalistic proclivities. We may conclude that they in their turn were in a line of successful ancestry equally innocent of such and similar fatal traits.

Symbiosis provides a different conception of the *ratio essendi.* It points a different moral from that of natural selection, one consonant with the Emersonian dictum that "benefit is the end of nature; but for every benefit which you receive, a tax is levied"; and likewise with the Ruskinian: "the increase of both beauty and honour is habitually on the side of restraint." Both thinkers thus express with pregnant brevity thoughts of deep significance for modern theories of evolution. Only with realisations such as these will it be possible duly to comprehend the evolutionary process, and for "Evolution" to have a bearing on the principles of human conduct, to affect human affairs, as it should, at every touch and turn.

EXPERIMENTAL PSYCHOLOGY AND THE CREATIVE IMPULSE.

By Major L. Urwick, O.B.E., M.C., M.A.

UNDER the title "The Creative Impulse in Industry," a writer in the *Contemporary Review* has recently called attention to an aspect of the problem of production which appears to have received surprisingly little attention from experimental psychologists. To many of those who have interested themselves in the future development of our social organisation, it is, either explicitly or implicitly, the central question for Western civilisation. It is the object of this paper to suggest that the science of experimental psychology, more than any other branch of acquired knowledge, is responsible for supplying the necessary basis of fact for its successful solution by the world as a whole; that the reasons for the previous neglect of this issue were inevitable, but are no longer fully operative; and that the position of the science itself will be strengthened, rather than weakened, by the application of certain of its resources to preparing the ground for future enlightenment, as against a policy dictated solely by consideration of immediate practical advantage.

The issue, as at present conceived, may be illustrated by quotation from the article referred to above:—

"Greater comfort and amenity in the factory, shorter hours, improved hygiene, do not win the allegiance and confidence of the great body of manual workers. What is the clue to the mystery? It is evidently not to be discovered in economic causes alone. It is not enough that conditions should be improved, child-labour abolished, and hours shortened, desirable as these things are. A change has come over men's minds in the twentieth century, especially perhaps in the last ten years or so, and Labour is no longer to be satisfied with a little more comfort, a little more wages, a little more 'bread and circuses.' . . . . Modern industry more and more cuts off the possibility of self-expression. . . In some forms of work the only kind of skill is the attainment of an extremely high degree of speed. The creative instinct in man, the instinct which makes him take pleasure in the work of his own hands, and exult to see it take shape and grow, is largely starved under such conditions. . . Modern specialised industry is a very wonderful thing, no doubt. It can work miracles . . and produce almost boundless wealth of a kind. But is it the true path of progress for the race that its members should be so desperately specialised? . . It may be that the race is really in some mysterious, sub-conscious way, compelled to make a choice betwen two types of evolution."[1] Or again: "The real tragedy is that men and women have to spend day after day in such simple, routine, uninspiring tasks, that not merely is bodily strength exploited, but intellectual and mental alertness and sensibility are dulled and even extinguished. There is nothing in the whole course of many an industrial life to call forth the creative energies of man, nothing to develop the mind and will in the higher sense."[2]

Assuming for the moment that the above description of the present situation of industry is correct, let us turn to the future. It is surely beyond dispute that the present crude achievements of the "Scientific Management" School in America have shown that the application to the human element in production of the mathematical measurements and exact standards, which have already distinguished our employment and development of natural resources and of the material factors in their manufacture, will result in astounding economies and in a vastly increased product. Assuming that we continue to demand cheaper products and more of them, and, in such an increased supply of material "goods" to vision our higher "standard of life," Scientific Management has pointed out the inevitable line of progress, the drift of development which cannot be avoided or resisted over any long period. Yet Scientific Management works by means of just such specialisation as has already been condemned in the existing order, carrying it to a degree of refinement to which imagination can set no conceivable limit. Its whole principle postulates a submission of the will of the individual to the necessities of organised co-operation, however imposed, which shall be progressive rather than diminishing.

A recent report, by no means wholly favourable, says, "nevertheless Scientific Management is to date the latest word in the sheer mechanics of production and inherently in line with the march of events."[3]

Yet if the submission of the will of the individual to further specialisation, to wider refinements of organised co-operation, is only aggravating a tendency which is already considered to be individually harmful and culturally unsound, surely progress as at present conceived by economists carries within it the roots of its own inevitable breakdown and decay? Precise definition of terms is not possible at this stage of the paper, but if personality, self-expression, individual initiative are paramount needs of the units of the species—needs which can only be satisfied by the preservation of craftsmanship, handiwork, a direct channel, however narrow, for the application of creative impulse—then industry as we know it to-day is a hundred years down a slope of disaster. And every success it may win along present lines, every economy in production, every increase of common wealth, will only more surely hasten the inevitable end. For the more bread and the more circuses will be bribes both to worker and to employer, added encouragement, to accept and develop a technology which is harmful to ultimate preservation and hostile to the best interests of human evolution.

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[1] "The Creative Impulse in Industry" (B. L. Hutchins). C.R., Feb., 1921.

[2] "Social Purpose" (Hetherington and Muirhead).

[3] "Scientific Management and Labour" (R. F. Hoxie), p. 137.

It is remarkable what a consensus of unscientific opinion appears to regard our present specialisation, and its further dvelopment, as carrying something of these consequences: though often without envisaging the logical conclusion of the idea. Recently an elaborate attempt has been made by one economist to estimate what he calls the "human" as opposed to the "economic" values inherent in our processes of production and consumption. In dealing with this special issue, he writes: "In some, perhaps most, branches of heavy routine toil, the shreds of human interest, the calls on personality are so trifling, that it seems absurd to take them into account. . . . But the human economy is far more doubtful in the case of labour, which, though sub-divided and mainly of a routine character, still contains a margin for the display of skill, initiative, and judgment. To remove those qualities altogether from such work and to vest them as is proposed, not even in the overseers, but in a little clique of scientific workers, would mean the conversion of a large body of intelligent workers into automatic drudges. . . Though the productivity of existing industrial processes might be very much increased by this economy (Scientific Management), the future of industrial progress might be imperilled. For not only would the arts of invention and improvement be confined to the few, but the mechanisation of the great mass of the workmen would render them less capable of adapting their labour to any other method than that in which they had been drilled. Again, such automatism would react injuriously upon the workers as consumers, damaging their capacity to get full human gain out of any higher remuneration that they might receive. It would also injure them as citizens, disabling them from taking any intelligent part in the arts of political self-government."[1]

From the political standpoint, it has been remarked that "the significance of the new trend of thought in Trade Unionism and of Syndicalism and Guild Socialism, lies in the fact that they are a reaction against the sacrifice of the producer to the consumer. They proclaim the doctrine that a place must be found for human personality in industry."[2]

Certain of the Guild Socialists have been so dominated by the mediæval idea, combined with the Class-War bias, that they have lost the thread of their statement in a swamp of emphasis. "If we decide that the Division of Labour is a curse, then it follows that, so far as the use of machinery necessitates this subdivision of function, it can only have evil results."[3] It is possible to question whether the mediæval worker in general had opportunities of self-expression denied to the worker of to-day, and to answer that question in the negative, without disposing of the problem. After all, the mediæval worker was not the same psychological compound as the worker of to-day. But the more practical of the guildsmen do not go as far as this. "We can neither pull up our railways, fill in our mines, nor conduct our large-scale enterprises under a system developed to fit the needs of a local market and a narrowly restricted production. . . I believe that, when we have established these free conditions, there will come from producer and consumer alike, a widespread demand for goods of a finer quality than the shoddy which we turn out in such quantity to-day, and that this will bring about a new standard of craftsmanship and a return, over a considerable sphere, to small-scale production."[4] It is of course possible to pin our faith to an alteration of the machinery of productive control, exercising an enormous change in the taste of the consumer. But to the writer, at least, it appears that the issue of craftsmanship has been recognised only to be shirked.

It cannot, however, be pretended that writers who have approached the question from an angle which is, generally speaking, psychological, have been more satisfactory. "It is obvious that the instinct of workmanship is a beneficent and fruitful impulse. It is equally obvious that among the great mass of wage-working people it to-day gets little chance for expression. . . Organised labour's influence is in the ascendant. It will undoubtedly, as its share of responsibility for production becomes more definitely established, adopt some more affirmative policy towards genuine efficiency and workmanship. Not only must provision for the exercise of this instinct be made in industry, but it will be largely up to the Unions to help in making it. In this demand upon their foresight and energy is coming a supreme test of labour's ability to take over industrial control."[1] Most people, at some time or other, have played the fascinating game of minuting. If you have to answer a letter, you lose. If you can say "Passed to you, please," you gain one point.

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[1] "Work and Wealth" (J. A. Hobson), p. 219.

[2] *The Athenæum*, Aug., 1917, p. 382.

[3] "Old Worlds for New" (J. A. Penty), p. 82.

[4] "Guild Socialism Restated" (G. D. H. Cole), p. 46.

These general statements of the problem of workmanship or craftsmanship have been dealt with at some length because they do appear to indicate that "the race is in some way compelled to make a choice between two types of evolution." Must science confess that that way is necessarily to be "mysterious and unconscious"? Or can we rather maintain "directly or indirectly, immediately or remotely, some one or a combination of instincts is destined to have a hand in conditioning the critical choices of conduct. Because this is true, it becomes our business in the troubled affairs of industry to find out what instincts are operative and in what ways they determine and limit behaviour."[2]

It cannot be said that the writer's researches in the works of experimental psychologists have thrown much light on this problem regarded in its larger aspect, or indeed have revealed any full appreciation of the problem as a whole. The enquiries he has made were necessarily limited by the calls of an active industrial career. But that fact in itself suggests that they were prompted by the practical issues of economic life, not by any far-fetched theorising. The industry in question, that of glove-making, still retains a large element of personal skill in the processes carried out both by men and by women. While a dozen of gloves as sold to a shop may be made up by workers in Oxfordshire, Somerset, Worcester, and Tipperary, the fore-women of experience are quite able to tell from a cursory inspection of any lot at which particular station those gloves were sewn. The same remarks, with necessary technical modifications, apply to the men's work. Equally, there are obvious opportunities for the sub-division of processes and the achievement of economies on the lines indicated by the Scientific

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[1] "Instincts in Industry" (Ordway Tead), p. 62.

[2] *Ibid.*, p. xii.

Management school. The workers' union is a general labour union, and the form of organisation does not run on craft lines. There is a works committee and a considerable measure of industrial self-government in matters affecting the internal organisation of the factory. The question of experiment on Scientific Management lines was submitted to the more intelligent of the workers' representatives, not as a decision of the management, but merely for discussion. Various tests were instituted to prove the possibility of combining higher output with increased earnings. The objection was immediately raised that the new methods, while doing everything economically which was claimed for them, would also take away something from the men and women concerned, would make their work "less interesting, less dignified, would destroy their style, would lower the quality, and result in a slackening of demand for the product of the factory," etc., etc. Finally, it was contended that the whole tendency was socially undesirable, though possibly economically profitable. And, in face of this last contention, the management was forced to withdraw . . . at all events for a time. Because it was quite impossible to prove that the tendency was not socially undesirable, and, as long as competition could be met by the older methods, there was no excuse for introducing or encouraging a procedure the long-period effects of which were "under a cloud."

It is, perhaps, unfortunate that most of the attention which the question has received from experimental psychologists has been canalized into the controversies aroused by the Scientific Management movement, and the opposition of the craft unions in the United States and in this country to similar developments. If we are to approach the issues with any hope of a correct result, scientifically satisfactory, it is essential to cut clear of the detailed and temporary aspects of this movement. Scientific Management is not a new thing: it is a perfectly logical development of our industrial technology. It is in line with previous practice. What we want to know is not whether Scientific Management is on the wrong line, but whether the whole of modern machine technology is on wrong lines. Equally, it is of small moment whether the opposition of the craft unions is based on considerations of immediate Trade Union interest; what is of importance is whether that opposition, whatever its reason, is ultimately right for the species.

The confusion of thought which arises from this canalisation is repeated by non-psychological writers, and who can blame them? "The objections raised by Trades Unions to many forms of Scientific Management are often set down hastily to mere ignorance and perversity. But if we take account of the fact that the very existence of the craft unions is threatened by the erasure of craft distinctions; and that the skilled workers thus risk losing the outlet for the creative impulse, the dignity of skilled work, we cannot help seeing, unless wilfully blind, that the workers are contending for a type of civilisation higher than that which it is intended to force upon them."

Undoubtedly "the very existence of the craft unions is threatened." But it is already an open question in the Trade Union world whether a craft or industrial form of union organisation is best suited for the future conduct of the struggle for control of production. It is interesting to note that Mr. C. B. Thompson, who can hardly be accused of an exaggerated sympathy with Trade Unionism, has noted the alignment between scientific management and the modern tendencies in the Trade Union world in this respect. "To those intelligent enough to distinguish the real principles of Syndicalism from its crudities it will be apparent that the Industrial Workers of the World represent more modern tendencies, and, unless it is killed by its abuses, has a more promising future (partly because of its consonance with the principles of Scientific Management) than the American Federation of Labour."[1] It is an inevitable reflection that "nature hath framed strange fellows in her time."

The extent to which this admixture of immediate controversies can blind even the clearest thinkers, is well illustrated by a remark of Mr. G. D. H. Cole's: "The biggest and most natural field for science in industry is in the management of inanimate objects and there let it be applied to the full. Where it affects men and is applied to men, its effects are far more problematical."[2] This plea for the abolition of works' doctors comes ill from a friend of labour.

What we want to know is, not whether craft unions will or will not survive, but whether the workers "thus risk losing the outlet for the creative impulse, the dignity of skilled work," and are therefore "contending for a higher type of civilisation"? And experimental psychology cannot hope to do its part in providing an answer to this all-important question, if it is to become involved heavily in the more immediate aspects of the Scientific Management controversy.

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[1] "Theory and Practice of Scientific Management" (C. B. Thompson), p. 151.
[2] "The Payment of Wages" (D. G. H. Cole), p. 78.

Nor, again, has the matter any direct connection with existing systems of wage-payment or the distribution of the product of industry. To quote M. Muscio: " Scientific Management could be associated with any form of industrial organisation; for instance, with Syndicalism."[1] This conclusion deserves wider consideration; it applies not only to Scientific Management, but to any technology. A technique and its psychological effects must be clearly distinguished from a reward or a system of control and their psychological effects. The danger to confusion is rendered greater by the suggestion that the instinct of workmanship or the creative impulse may be sublimated by an extension of democratic control. " Industry offers opportunities for creative experience which is social in its processes as well as in its destination."[2] Or, again: " In group work there may be as much power to release emotional and intellectual creative force as in individual work. There may be more. We do not know."[3] But a first and cardinal condition of our knowing, is a clear analysis and understanding of the instincts, impulses, inherent tendencies and acquired characteristics, pleasures, and pains, which determine human behaviour in individual production. The consequences of grouping are also a subject for psychological research, and a most important, if not the most important, aspect of the whole problem. But we can only make confusion worse confounded by dealing with the social aspect of the matter before providing a clear basis in individual psychology.

What guidance in this respect have we received so far?

The American school face the problem, but do not attempt to provide an answer on the scientific side. It is not possible to quote at length. But we may take Munsterberg and Hollingworth as typical. " It must, however, be acknowledged that the problem of the best work is not quite such a clear one as the problem of the best man. . . A capitalistic, profit-seeking egotism may consider the quickest performance, or if differences of quality are involved, the most skilful performance, the only desirable end. The social reformers on the other hand, may consider the best work that which combines the greatest and best possible output with the highest possible saving of the organism, and the fullest development of the personality."[4] "Of equal importance, though more recent in its development, is the question of the psychological effects of such methods on the worker. Do these methods tend to destroy his spontaneity and reduce him to an automaton by prescribing for him a routine plan of work? etc., etc. In the solution of these questions, as well as in the adaptation and development of the industrial methods which raise them to consciousness, the applied psychologists finds an inviting and valuable field of research.'"[1]

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[1] " Industrial Psychology," p. 235.

[2] " The Creative Impulse in Industry " (H. Marot), p. 138.

[3] *Ibid.*, p. 145.

[4] " Psychology and Industrial Efficiency " (Munsterberg), p. 142.

Thorstein Veblen, at the end of 350 pages devoted almost entirely to a discussion of the subject of Workmanship, highly philosophical, packed with the most difficult presentation of the problems of cultural anthropology, and strongly recommended as an exercise to all who find creative satisfaction in the mastery of intellectual and verbal jig-saws, comes to exactly the same conclusion. "It may perhaps be an open question whether the Darwinian conception of evolution is in no degree contaminated with teleological fancies, but however that may be, it remains true that a purely mechanistic conception of a genetic process in nature had found no lodgment in scientific theory up to the middle of the nineteenth century. . . Whether such an eventuality is to overtake the scope and method of knowledge in Western civilisation should apparently be a question of how protracted, consistent, unmitigated, and how far congruous with their native bent the discipline of the machine process may prove in the further history of these peoples.'"[2]

The English method of attack is more detailed, more definite, but apparently equally empirical. It is more contaminated with current economic desiderata, and the pre-occupation with the existing Scientific Management controversy already referred to. Thus Muscio: "The charge against industrial psychology which we are now discussing (that it is destructive of craft skill) is, strictly speaking, only a skilled labour charge." "What must be guarded against is the use of *any* methods of work for hours which are too long.'"[3] "It is not the serious thing it is often supposed to be that industrial psychology takes craft knowledge and craft skill from the worker. . . . It seems to me, for instance, that a man who had learned Gilbreth's method of bricklaying would possess more craft skill than the man who knew the traditional methods only.'"[4] "It would seem that mere specialisation is not the soul-destroying factor in work. If it were, the outlook would be black enough, for specialisation has an octopus grip on modern industry. It is this which makes the idea that each workman should make 'one whole thing' so very impracticable. A railway engine is one whole thing, one would suppose; but it is altogether impossible for one man to make a railway engine. One man might make a chair, a bedstead, a table, a piece of soap—although one wonders whether he would really express himself in a piece of soap. . . Suppose that men who are engaged upon specialised work, find their working existence barely tolerable. In these circumstances it would seem that the hours should be reduced, in order that men may find, in social activities outside their work, the interest and opportunities for self-expression not otherwise offered them."[1] One may be forgiven for a sensation that these extracts do not represent a psychological so much as an economic attitude. There is no hard and fast line in psychological fact between skilled and unskilled labour; every unskilled job has some elements of choice and initiative. The absence or removal of this element of choice is psychologically unsound for the man who does the job. Unduly long hours are in themselves an evil: so is being cold. But neither issue has any direct connection with the psychological effect of the technique actually pursued during the hours of work. It is true that the man who knew Gilbreth's methods of bricklaying would possess more craft skill than the man taught under the old methods; he would not possess more craft knowledge, since his span of experiment and experience would have been reduced. It is true that the idea of each man making one whole thing is impracticable; it is possible that he may not find much self-expression in a piece of soap. But the problem is not to point out that the new method is no worse than the old, but to meet the gradually-realised evils of a tendency which is coterminous with machine production. And, finally, we come back to the old proposition of more leisure. Is this psychologically sound as a prospect? Is it possible to conceive of a state of society in which the work of providing material necessities is not the primary pre-occupation of men, the challenge to seriousness and effort, the cement of society? To do so is to run counter to the effect of all teaching as to the influence of organised and co-operative industry as a civilising and socialising force of outstanding psychological significance. We have grown through our necessities, as individuals, as peoples, as humanity: can our leisure either win new fields or retain the old?

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[1] "Applied Psychology" (Hollingworth and Poffenberger), p. 228.
[2] "The Instinct of Workmanship" (Thorstein Veblen), p. 328.
[3] "Industrial Psychology" (B. Muscio), pp. 247 and 256.
[4] *Ibid.*, p. 251.

Dr. C. S. Myers is less direct in his dealings with the question of craftsmanship. He points out that the theory favoured by the motion study experts that there is "one best method" of doing a job which can be arrived at by a kind of composite picture of half-a-dozen workers' respective movements, ignores the experimental results on the psychology of individual differences. It is a "psychologically unwarrantable and vicious procedure."[1] But on the more general question he concerns himself solely with the fear of losing craft skill attributable to the struggle arising out of the present system of control in industry. "It is therefore essential that the application of motion study shall be controlled by the workers." Further, he draws a parallel between the recording and transmission of craft skill in industry and the development of therapeutics. "There was a time when the methods of medicine and surgery were secret, and were transmitted orally from master to apprentice. Is it not obvious that the secrets of industrial and commercial craftsmanship must sooner or later become public property?"[2] This last comment is interesting from the fact that F. W. Taylor uses a precisely similar comparison with surgery to illustrate a similar but differing point. When it is suggested that the worker would object to the highly detailed and scientific course of training, much of which he would not understand, required to equip him for the new methods, Taylor retorts that the student of surgery does not object to accepting other people's scientific conclusions, or to the discipline and lengthy training based upon them. These two statements may be considered side by side with an *obiter dictum* of Hollingworth's that the science involved in any industrial process is far beyond the comprehension of any ordinary worker. The writer would like to qualify that statement with "at the moment." The binomial theorem is demonstrably far beyond the comprehension of any ordinary baby. But "what are moments grown to years and boys to men?" This line of thought will be developed later in the paper.

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[1] *Ibid.*, p. 255.

The last of the modern experimental psychologists demanding quotation is Ioteyko. She defends Taylorism, and incidentally the existing social order, with a fury which is in itself an interesting psychological study. The scientist who is *deputé malgre lui* merits research. "The assertion that the workman is brought down to the level of a machine is incorrect in every particular; it is the dexterous methods employed in Taylor's system which result in producing the skilled workman. Another sentimental objection may seem more specious. It is sad to see the artistic workman disappear . . . follows a resumé of the material achievements of the last century. . . . Taylor invites him to double this gain, and people want to oblige him to doubt this gift out of respect to a few rather antiquated principles. . . . It is untrue that repetition of the same work disgusts the men. That is to contradict our daily experience. . . . Hardly will you find one in a hundred capable of realising the monotony of his work. The workman performs his work quietly without thinking about it, dreaming about his own little affairs, his plans and so on." Or again, and more thoroughly, " the monotony of labour is not a reproach that can touch Taylor's system, any more than the absence of the intellectual element and the increase of discipline with the reduction of individuality and spontaneity. The charge of monotony may be brought against all manufacturing industries —the monotony only differs in degree. The fault is irreducible like that which relates to the machines themselves. Industrial labour is by its very essence monotonous and very unintellectual, tending inevitably towards ever greater and ever more complete automatism. To-day the friends of the worker know that industrial labour can never be a source of mental evolution for the worker. This conviction urges them further to economize the workman's strength, to reduce his hours of work by improving the work itself, and by giving him the consolation of a healthy home in the country, and a training able to supplement the autonomy demanded by his rôle as an industrial worker, and which the needs of our civilisation render absolutely necessary."[1] Fancy running the race of life in the hope of a consolation prize! One prefers the passionate denial of an American writer: " If the claim made by the employers were true that from 95 to 99 per cent. of the working force is without productive impulse, that this condition of development represents, as they say it does, 'the native limitation of the men who work,' industry as a progressive enterprise is doomed, and high hopes for civilisation are without foundation."[2] Ioteyko's complacency lends force to Veblen's profoundly pessimistic criticism: " History records more frequent and more spectacular instances of the triumph of imbecile institutions over life and culture than of peoples who have by force of instinctive insight saved themselves alive out of a desperately precarious institutional situation, such, as for instance, now faces the peoples of Christendom."[3]

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[1] "Mind and Work" (C. S. Myers), p. 193.

[2] *Ibid.*

Some considerable space has been devoted to the small body of initiation and suggestion on the problem of workmanship which may be obtained from current psychological writings, because it appeared that this method was the best available for the purpose of isolating the issue. Such isolation is, of course, the necessary preliminary to a proper scientific enquiry. What is wanted is not a controversial statement as to whether this or that social or economic institution does or does not increase creative impulse, impair it, or destroy it. Rather the requirement is for an exact enquiry into the creative impulse, the instinct of craftsmanship or workmanship in the individual, how it arises, and develops, but more particularly how it functions to-day for the individual's weal or woe. That, in the first place, and in the second a consideration of the group or social bearing upon that impulse or instinct with particular reference to the possibilities of sublimating an individual interest or tendency into a similar group interest or tendency. Thus the psychologist in approaching the question of workmanship, has nothing whatever to do with

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[1] "The Science of Labour" (J. Ioteyko), pp. 69 and 81.
[2] "The Creative Impulse in Industry" (Helen Marot), p. 134.
[3] "The Instinct of Workmanship" (Thorstein Veblen), p. 25.

(*a*) The question whether the world can or cannot be provided with its needs under a system of handicraft: that is for economics and statistics to answer.

(*b*) The question whether scientific management is really more injurious in destroying craftsmanship than other industrial methods. The issue is one inherent in the technique of machinery, of which Scientific Management is only a logical development.

(*c*) The question of whether more or less leisure can be set off against more or less monotonous work: that does not answer the point; what sorts of repetition work are culturally harmful, and why?

(*d*) The question whether the claim of the craft unions against Scientific Management is due to fear of losing their basis of organisation. If that is really the ground of their opposition that opposition is of little psychological interest. It is a matter of Trade Union politics.

(*e*) Any issue connected with the present organisation of industry and the wage economy. The psychological effect of processes would be just as important if a Soviet was running every factory in the land, as far as the individual is concerned.

The questions which psychology can and should answer are:—

1. What instinctive processes combine in the creative impulse?

2. What individual differences are discernible in the various aspects of that impulse, *e.g.*, susceptibility to monotony, manual dexterity, etc., etc.?

3. Is a return to handicraft possible psychologically, *i.e.*, will the instinct of workmanship function normally with a less efficient method once it knows of a more efficient method?

4. What various tasks are particularly adverse to the impulse, contain no outlet for its expression?

5. What is the effect on various individuals of these different types of tasks, the physiological and psychological costs?

6. What sublimations are possible for the individual in the case of the various instincts analysed under 1? *E.g.*, can knowledge of a machine compensate for handling of a tool?

7. How far for various individuals is there really an æsthetic element in the impulse? Can it be transferred from the object made to the method of making?

It is of course possible to extend the list almost indefinitely. Nor is it to be expected that the necessary experimental work for the solution of a tithe of the questions already posed will be accomplished within a generation. But it is suggested that an analysis of the creative impulse and the effects of machine processes should be an ideal constantly before the minds of psychologists, and that such an individual analysis must be the necessary basis of any real knowledge upon the possibilities and probabilities of various forms of industrial organisation regarded from this point of view.

At the same time it is to be expected that research will not confine itself strictly to the order of development suggested. Scientific work is fortunately as virile, as individual, as diffuse in its interests as any other forms of genuine craftsmanship. Undoubtedly group psychology will develop on experimental lines side by side with individual psychology.

Further, while pre-occupation with economic possibilities is a snare and a delusion to the study of the individual, while no organisation, no form of control can alter the fact that a specific process or a particular technique may be suppressive of certain instincts in one case and not in another, it does seem quite clear that Western civilisation cannot to any great degree go back to handicraft, both on economic and on more general grounds. "It is idle to talk about going back or eliminating institutionalised features of society. We cannot go back. We have not the power to discard this or that part of our environment except as we make it over." And indubitably the most hopeful suggestion for checking the cultural suicide involved in excessive repetition work is the suggestion that we can sublimate the individual creative impulse which is thus suppressed by directing it into social channels. For pride of the thing made by me we can substitute pride in the thing made by my factory, for pleasure in the dexterity of my fingers we can substitute pleasure in the dexterity of the organisation, for joy in planning a table or a chair we can substitute joy in planning a great organisation in which under democratic control every worker shares.

There is no room for question as to the hopefulness and the value of this line of thought. "Attend the shop meetings of a newly-organised Trades Union. . . In the course of discussion it becomes clear to an observer that methods of work is as absorbing a topic as the relation of the work to the wage. The routine which is the apparent result of the division of labour, becomes under discussion a matter of technical import. The workers' knowledge of labour-saving devices and their resources for inventing new ones, are as expert as the business man's knowledge of how labour costs can be saved. The matter under discussion is of high interest and concern." An efficiency engineer approached the workers' committee of a factory in the U.S.A. which was organised under the John Leitch plan of industrial democracy . . the chief feature of which is that it is exactly modelled on the U.S.A. Constitution which is known to the workers, and therefore in the difficult initial stages of industrial self-government makes the smallest possible demand for constructive or original political thinking. The whole energy of the representative bodies of workers is concentrated on the task of administration, not largely pre-occupied with grasping new ideas and new forms of governmental machinery. The efficiency engineer who was out for custom as a consultant, was met with the comment: "What do we want to go paying you a large commission for? Gee, there are 360 efficiency engineers on this plant already!"

But if the starved and suppressed creative impulse of the workers is to be successfully directed into social channels, we must have a much more exact knowledge of certain factors of group and social psychology bearing on workmanship than we at present possess. It is impossible for any man who has served in the army to listen to the business man who has not, talking about the army's inefficiency, without wondering what the business man means by efficiency. After all, the problem of all organisation, all management, is ultimately to induce men to co-operate for the achievement of some end. Business has failed conspicuously either to state its end in a form which will command co-operation, or to organise its moral. The army's claim to laugh at business is quite clear. Even in war-time, when the demand on men's lives and comfort, on every human emotion, on all that apparently makes life worth living, was paramount, the army held its regiments and its divisions together: can business say as much? Consciously or unconsciously, the military people seem to have hit on a very vital principle in the social expression of instincts. We may call it the span of community.

Benjamin Kidd has defined the science of power as "the organisation of mankind in the service of the ideal."[1] We are all accustomed to the psychological conception that the ideals which inspire men's action are originally a complex of many reflexes, instinctive tendencies, and natural proclivities, contaminated by interaction, habit and custom, the history of our social development. It is suggested that for any given individual each and every such ideal can only find a balanced social expression, can only develop its full force and value, can only develop to the full the various complementary tendencies of which it is compound through a group of a certain size, and that the causes which determine the size of the ideal group for the particular purpose are both the nature of the purpose itself and the level of the individual's psychological development. Since, therefore, the conditions of civilised life require the co-operation of large numbers of individuals of varying standards or levels of mental and moral evolution for the achievement of almost any specific end, almost any organisation must be so framed as to allow for these differences, and to present to each individual a social grouping commensurate with his powers of comprehension and knowledge. Where the size or nature of the organisation are such that the end is lost to view in any individual instance, the necessities of co-operation fail to command any conscious adherence, and the various individual instincts seek an individual as opposed to a social expression. Presuming that pressure of economic necessity or other causes maintain the co-operation, such instincts are repressed. You get a pathological condition of society attributable to overstraining of the span of community, exactly as the individual who is faced with a task beyond his span of apprehension or memory may ultimately develop nervous breakdown.

So regarded, the machinery of the army organisation takes on a new significance. You have the section, the platoon, the company, the battalion, the brigade, the division, the corps, the army, the Expeditionary Force, the army as a whole, and finally the country, each and all of them demanding certain allegiances and certain loyalties in varying degrees from varying individuals. So that every instinct which indivdually was most violently repressed by the requirements of organisation, found some opportunity of social expression. In industry this principle has been most savagely neglected. The enforced co-operations of the shop, the department, the factory, pay little or no attention to the size of the group or its psychological reactions. This all-important issue is decided haphazard under pressure of of space, expense, the personality of the organiser, or the whim of a foreman.

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[1] "The Science of Power" (Benjamin Kidd).

The instinct of craftsmanship, the creative impulse, can find no social avenue of expression, unless and until our knowledge of the span of community is co-ordinated and refined.

It may be noted in passing that acceptance of this principle in the house, school, and old boy associations probably explains why the English public schools, surely the most intellectually barren communities in Europe, show such a high survival value as an educational institution.

The various other problems which group psychology must solve, if we are to adapt the creative impulse to the requirements of machine technology, are really all of them dependent on the question of the size of the group. One successful business man has laid great stress on the significance of statistical information as to the progress of the group and individual achievement. "The degree of conscious self-expression which the workman can attain is in direct proportion to the ability of the organisation to measure for his benefit, the impress of his personality upon it."[1] Again, attention has been called to the importance of certain social, as opposed to material rewards, in sublimating the instinct of self-assertion. Badges, buttons, colours, have a high motive value.[2] In all these matters there is a clear call for research. And the achievements of experimental education on various forms of group and class instruction do suggest that there is reasonable ground for anticipating a real advance in knowledge from experimental effort. But if such an advance is to be achieved, it is important that group psychologists should keep before them in conducting their detailed experiments, the implications of the span of community as it affects creative impulse.

To return to the creative impulse in the individual, the essential basis of knowledge, if we are rightly to interpret group tendencies and influences. An economic writer has pointed out the first distinction of real psychological significance, and the basis of any credible analysis. "We think of craftsmanship ordinarily as to the ability to manipulate skilfully the tools and materials of a craft or trade. But true craftsmanship is much more than this. The really essential element in it is not manual skill and dexterity, but something stored up in the mind of the worker. This something is partly the intimate knowledge of the character and uses of the tools, materials, and processes of the craft which tradition and experience have given the worker. But beyond this and above this is the knowledge which enables him to overcome the constantly-arising difficulties that grow out of variation not only in the tools and materials, but in the conditions under which the work must be done. . . . This being true, it is evident that the greatest blow which could be delivered against unionism and the organised workers would be the separation of craft knowledge from craft skill."[1]

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[1] *Contemporary Review* (R. B. Wolf, quoted by B. L. Hutchins).

[2] "Applied Psychology" (Hollingworth and Poffenberger).

While the last sentence raises an issue which we have already ruled out as of no psychological interest, it also indicates the most immediate and promising line of research. It is, of course, impossible to dissociate the mental and physical aspects of any achievement absolutely. But while manual dexterity is partially due to knowledge of the tool and the materials, it is also largely a question of motor and muscular control. Undoubtedly the successful achievement of any form of manual dexterity is in itself a source of satisfaction. To be physically equal to any given situation is a pleasure while it remains on the surface of consciousness. This would appear to be the basis of an activity such as playing golf against bogey. But it is to be remarked that the accuracy of the movement increases, and the pleasure to be derived from it decreases according to the attention emphasis. And this is noticeable at both ends of the scale of practice effect. Thus, when one's mind is concentrated on something else, it is possible to roll up a ball of paper and throw it into the wastepaper basket with an accuracy which falls away directly the attention is turned to the object of hitting the wastepaper basket. It requires constant practice to repeat the performance with any certainty. And real accuracy only supervenes when the movement has become habitual and requires little or no attention. Craft skill, considered on the physical side alone, loses the whole of its achievement for the individual, just as and when it reaches its highest point of efficiency from the standpoint of repetitive production.

It is suggested that the whole of the human value of the creative or craft process, its power to give relief to the complex of impulses known as craftsmanship, lies directly within the sphere of craft knowledge. Veblen tells us that "the instinct of workmanship occupies the interests with practical expedients, ways and means, devices and contrivances of efficiency and economy, proficiency, creative work, and technological mastery of facts."[1] If the conclusion stated above is valid, it appears that proficiency is the sole element in the instinct which can properly be included under craft skill, and that that element loses its interest when most adapted to the requirements of a machine technology. There remain the other various elements, which may be summarised as craft knowledge. The encroachments of machine technology on these various elements is of surpassing importance, and appears to be susceptible to experimental enquiry. An analysis of half-a-hundred instruction or job cards from the point of view of their removal of the interest and initiative of the worker to the management under these various headings would be an interesting study. Moreover, under the observational method it would be possible to take a specific task, say the making of a table, and gradually to eliminate one after the other of the above elements from the worker's initiative, comparing the results in his interest in the task. Much of the work already accomplished in the direction of vocational selection suggests analogous experiments bearing on this question.

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[1] "Scientific Management and Labour" (R. F. Hoxie), p. 131.

More obvious enquiries suggest themselves as likely to make important contribution to the practical and immediate aspects of the question. The relation of monotony to fatigue awaits an extensive experimentation, and equally the relation of rhythm and repetition to monotony. The trend of individual differences in this respect and their potential importance in allocating tasks have already been emphasised by Munsterberg and others.[2]

Equally, the experimental psychology of æsthetics has yet a great deal to add about art and the craftsman. On this subject, included in Veblen's analysis under "Creative Work," a great deal of rubbish has been written, much of it undeniably sentimental. As far as we can tell, the present methods of production are very much in line with the basis of æsthetics, and not running counter to it. The uglinesses of our economic system and in the goods it produces are not the result of machine technology but accidental to it. And as developing at present, machine technology encourages clearer æsthetic standards rather than the reverse. "Evolution of interest in visible aspects would, of course, increase tenfold as soon as mankind took to making things whose usefulness might be jeopardised by a mistake concerning their shape. . . In short, making, being inevitably shaping, would have developed a more and more accurate perception and recollection of every detail of shape."[1] There the accuracy demanded of scientific production would appear to reinforce this process. "The shape of the things we make and use offers itself for contemplation in those interludes of inattention which are half of the rhythm of attention swinging from effort to ease, which explain how art has come to be a part of life, how mere aspects have acquired for our feelings an importance rivalling those of things."[2] It is suggested that the Victorian period is attributable, not to machine technology directly, but to the fact that man had not yet mastered the new tools placed at his disposal by the employment of new sources of power or their application to fresh materials suggested by the physical sciences. It was essentially an experimental period, crude and unbalanced. But that this involves an essential ugliness in machine production is denied. The evolution of the motor-car, both engine and body, is offered as a study to those who maintain the opposite point of view.

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[1] "The Instinct of Workmanship" (Thorstein Veblen), p. 33.

[2] "Psychology and Industrial Efficiency," 1892 (Hugo Munsterberg).

From this suggestion follows a hypothesis which may perhaps be of interest in approaching the problem of craftsmanship. Reference has already been made to the theory that the science involved in any modern industrial process is beyond the understanding of the ordinary worker. Veblen, in discussing the instinct, states: "The best or most finished outcome of this disposition is not had under extreme urgency from any of the instinctive propensities with which its work is associated or whose ends it serves. . . . In seasons of great stress, when the call of any one of the instinctive lines of conduct is beyond measure, there is likely to result a crudity of technique and presently a loss of proficiency and technological mastery."[3]

Now the circumstances of the industrial revolution called for a standard of initiative in leadership, and a degree of co-operation in production previously undreamed of. To give effect to that necessary co-operation a form of industrial discipline was introduced which was avowedly based on a direct appeal to hunger. The master said to the man, you work as I want you to work or you starve; and the man frequently starved any way. Equally, the leadership was highly rewarded and tended to develop its mastery of its own technique at an accelerating pace. Is it not possible that the present trouble is not with the machine technique, but with the fact that it is beyond the understanding of the ordinary worker? For the reason suggested our mastery of technological process, as far as the majority is concerned, has not kept pace with the mass of objective fact which is at the disposal of the few. The surgeon is taught the best methods of modern science, minutely and exactly. Much of the information so accorded he takes on trust. But ultimately he is expected to have a close acquaintance with the laws governing the material in which he works. He goes to the operating room with an understanding of the human body, not with a job card. And though he may apply much formal method and manual dexterity, he is constantly required, in the course of an operation, to exercise individual direction, choice, and initiative. His fitness for the task is a matter of years of training.

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[1] "The Beautiful" (Lee), p. 91.

[2] *Ibid.*, p. 94. This sentence appears to bear some relation to the theory of rest pauses.

[3] "The Instinct of Workmanship" (Thorstein Veblen), p. 34.

It is possible that the only insurance which our civilisation can make against the cultural suicide which machine production appears to threaten, is along these lines. The worker must be guaranteed against too excessive a pre-occupation with the wage-rate, and at the same time we must entirely revise our whole theory of industrial training. There is no reason why the worker should not understand the science of the technique which he exercises, except lack of education and economic pressure in his early years. The traditions and experience of his craftsmanship must inevitably be written down, recorded, co-ordinated; but not that they may become the privilege of the few, the expertise of the planning-room staff, but the heritage of the many. That is what industrial democracy really means, and until that ideal is in some sort realised, no amount of shop or factory control can hope to solve the problems of craftsmanship. Fortunately, schemes for industrial maintenance and a progressive policy in education appear to indicate that this country is not lacking in some sort of right tendency on the subject.

It has perhaps been felt that the present state of experimental psychology does not warrant such a pre-occupation with an admittedly long-period investigation as has been suggested. No doubt the problem of the creative impulse has not failed to arrest the attention of experimental psychologists. But they have felt that the science was on its trial, and that they must show applied results. In addition, there is a strong tendency to indicate that psychology can point to the means, but that it is outside its scope to pronounce upon the ends. It is noticeable that in a recent series of lectures on the subject of applied psychology in industry the problem was only really faced by the one lecturer who was not a psychologist, or indeed a scientist at all.[1] Undoubtedly much of the work of experimental psychology must for a long period be confined to the solution of urgent and immediate problems within the scope of our present social organisation.

But it is definitely suggested that any science runs a grave risk, if it is too strictly limited to the consideration of immediate practical needs. It tends to accept the conclusions of kindred sciences and so vitiates its contribution to human knowledge. In the present instance its pronouncements would appear to have been unduly coloured by economic postulates. Such a preoccupation can only contaminate the search for truth. In the present instance it would carry the far greater penalty that psychology would come to be identified with the interests of one only of the parties to industry. The industrial psychologist is bound to run a grave risk of being labelled as an employers' man, however disinterested his investigations. Unless and until he can definitely rebut such an accusation to the workers' satisfaction as well as his own, he is under a constant threat of opposition. Any significant shift in the balance of economic power might translate that threat into a sentence of outlawry which would ruin his work for generations. Not the least terrible of the stories from Russia to-day is Wells' account of the scientists' institute in Petrograd.

The end of industry ultimately must remain " the good life." If the methods of industry can be shown to be psychologically harmful to the individual, that truth must be stated, whatever the economic consequences of the conclusion. And the consideration of that possibility with special reference to the creative impulse, whether as a background to more immediate work or as the subject of special investigation, can only add strength and scientific purity to the work of experimental psychology.

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[1] Prof. Sorley at Cambridge, July, 1919, v. " Lectures in Industrial Administration " (ed. B. Muscio).

AUTOMATIC WRITING IN ITS RELATION TO PSYCHOTHERAPY AND PHILOSOPHY.

By J. Kenelm Reid, M.B.Ch.B. (Edin.), Physician to the London Neurological Clinic.

BY "automatic writing" may be understood any writing the subject matter of which is actually or supposedly absent from the subject's phenomenal consciousness at the time he is writing. This, at any rate, is the definition which, being free from theoretical implications, appeals to me; and, moreover, it is useful at the outset in suggesting the nature of the problems surrounding its interpretation.

That such writing occurs is not in dispute. Nor can it be denied that sometimes the matter written *may* emanate from knowledge communicated to the subject by spirits or people at a distance; that is to say, it can only be denied by those who imagine that they have arrived at scientific certainty regarding the impossibility of these things. I am not of their number, for I do not know; and what I believe to be probable or improbable in this connection has no bearing on the following remarks. It is with the merits of the theory that *certain* automatic writing emanates from the subjects's own mind that this paper proposes to deal, especially in so far as it concerns psychotherapy and philososphy.

If it be explained to a patient that his hand may involuntarily write the answer to a question, which he finds he cannot consciously answer, and then you ask a question which he says he cannot answer in the ordinary way, several things may happen. He sits, by the way, at a table, with the pencil lightly applied to the paper in the usual writing fashion, or held vertically with the arm raised, and is instructed to look out of the window, think of "nothing in particular," and allow the pencil to move as it will. The question may have to be asked several times.

In the first place no writing may occur (or at most a stroke or two). You then ask him what thoughts have been passing through his mind, and quite often find that a particular word or phrase kept popping into his mind while he was gazing abstractedly into space. He may say that he recognised the connection of this with the question at the time it came into his mind, that he recognises it now, or perhaps even that he fully realises in it the answer to the question. On the other hand, he may deny the recognition of any connection; and, lastly, he may confess that this denial was untrue, the explanation of his deceit being that he did not want to admit such a connection either (*a*) to himself, or (*b*) to you. It appears to be characteristic of the word or phrase, which bears a true connection with the question, that it keeps "popping" into consciousness in somewhat striking contrast to the stream of ordinary idle thoughts. As a rule, your patient will give you these thoughts first, only delivering up the crucial one on being pressed.

If writing takes place, it assumes one of two forms. In the first variety, the letters are traced fairly slowly, the speed not being uniform, and generally they begin as a scrawl, legibility only coming as a result of a few or, it may be, many trials. Moreover, the handwriting is often quite unlike the ordinary deliberate variety, and there is a characteristic jerkiness of the movements, coupled with a peculiar lack of precision (at any rate at first), which is readily recognised after a little experience. If there is marked absence of precision and of uniformity of speed, the writing may stop in the middle of a word; but if not, then as a rule a pause means that the end of the word or phrase constituting the answer has been reached. Expression of emotion is unusual in association with this form of automatic writing except at the end, when it is common to find that the subject who has worn a somewhat vacant and mask-like expression all along, sighs, shows signs of impatience, fatigue or distress, and throws down the pencil. The writing may be legible enough to supply you with the required information, but if not, then the latter may often be gained by searching for the characteristically "popping" word or phrase as already described. If the writing is legible, you may find that, so far as can be ascertained, the patient was and is ignorant of its content. Or you may find that some effort of concentration on his part brings it to his consciousness. Again, you may find that although he did not consciously direct the hand, yet the letters rose to consciousness directly he wrote them. Finally, it may transpire that the mechanism just described enabled him to know the subject matter of the writing, but he pretended ignorance at first. I have never found, however, that this variety of writing was deliberately performed, that is to say, that consciousness of the material preceded and determined it, and I believe simulation would be impossible except in the case of someone conversant with the whole subject.

In the second variety of automatic writing, the letters are traced more quickly and with more or less uniform speed. They are more legible and may bear a greater resemblance to the patient's ordinary handwriting. There is precision in the movements. Frequently there is emotion, the hand tremor causing the strokes to be "wiggly." It is my experience to find that this kind of writing is always consciously determined, though the patient may at first deny this. If there has been emotion, the denial is generally found to have been prompted by a distaste for the material written, and a disinclination to confess that it formed a part of conscious knowledge. In the absence of emotion, or in the presence of feigned emotion, the denial seems to have hysterical motives, *e.g.*, satisfaction in being the subject of an interesting experiment, the romance of which would be destroyed if consciousness of the material were admitted, a feeling of power in being able to deceive and so almost "direct the show," etc. But this, you may say, is simply conscious writing, and cannot be dignified by the name "automatic"! My reason for including it under the latter term is merely that it may be confused with the former variety, and, moreover, the consciousness of the material which precedes it may itself have arisen according to the mechanism of the "popping" idea—say, as a result of a slight automatic movement of the pencil to begin with—the deceit following. You will see that my definition can be held to include it.

This concludes the description of the main features of automatic writing which is presumed to emanate from the patient's own store of knowledge. There are, as we have seen, three varieties: (1) Automatic ideation, prompted by assuming the writing attitude and perhaps by a few movements of the fingers. The ideation is called "automatic" because it is of the nature of an excrescence in consciousness, having as a rule no relation to the mass of ordinary thoughts. (2) True automatic writing. (3) The false variety. Practice may make the second variety so fluent, that it comes to resemble the third or even to be almost identical with ordinary writing. Writing, however, which presents any real degree of fluency, to begin with, is almost sure to belong to the third group.

The presumption that the automatic writing of which I have been speaking emanates from the patient's own mind, is based upon evidence gained from psycho-analysis, but I am afraid it would be impossible in this paper to give you a convincing account of the nature of such evidence, the strength of which lies in its mass. Suffice it to say that automatic writing is often of great value in aiding the two kinds of psychic synthesis which make for a patient's recovery from nervous troubles, (1) the synthesis within his own mind whereby antagonistic parts of his psyche are made co-conscious and so capable of co-adapting themselves; (2) the synthesis between his own and the physician's mind, resulting in inharmonious psychical structures being made matters of their common consciousness and so more readily undergoing desirable modification.

In passing, I might mention a point of interest. If a patient be told to close his eyes, think of nothing in particular, and allow words to float up into consciousness one after another (perhaps at intervals) without the interference of any conscious force, it will often be found that such words form the skeleton of the recital of some event or indicate a rational train of thought, the material in either case being subconscious. Now, if the patient be trained to write fluently in a true automatic fashion, what is to prevent your carrying out a similar experiment with the stratum of consciousness from which the writing emanates? In this case the words "thrown up" would come from a third and still deeper stratum, and would be written down automatically as soon as they emerged. I have, as a matter of fact, obtained by this method a memory of which the consciousness responsible for true automatic writing purported to be ignorant, but I am bound to say that in this case I could not feel certain of the absence of fraud.

As I have already said, detailed descriptions of cases with summing up of evidence cannot be given here, but one or two mere references illustrating the value of automatic writing in psychotherapy may be of interest. In one case the patient, who suffered from hysterical fits, was trained to carry out the writing. At first it was quite illegible, but soon I could make out the word "image" and a few others. With the help of this information, a repressed memory of his early school days was unearthed, which had been a prominent factor in determining the fits. The fit, during which he placed one arm behind his back, turned out to be the active expression of his childish identification of himself with an "image," namely a certain statue which had one arm broken off, the reasons for the identification being exceedingly complex and interesting—having, in fact, to do with repressed partial sexual impulses. The synthesis of this memory with consciousness led to the disappearance of the fit with the exception of twitching of one arm, which had other determinants. In another case the automatically-written word "disappointment" was found to refer to disappointment the man felt for deserting his first home (mother, brothers, etc.) for his second (wife). His "mother" psyche and his later "independent" psyche were conflicting. It also had other subsidiary meanings. Intellectual penetration of this conflict in himself resulted in cure. In another case an incestuous fixation on the mother was revealed, and led to recovery (third variety of automatic writing).

The main (medico-psychological) features of automatic writing having been disposed of, it may not be out of place to consider one or two of its theoretical aspects.

From the medico-psychological point of view, the sole interest in automatic writing lies in its being a means of laying bare to the common consciousness of patient and physician something in the former's mind, known consciously or only subconsciously by him, which resists such exposure. And here I should like to bring to your notice a very important consideration, which I am bold enough to think must apply to any kind of true automatic writing—even to that which is supposed to depend upon other influences than the subject's own mind. The occurrence of true automatic writing means, whatever else it may mean, that it is taking the place of ordinary writing or speaking because of an absence of fusion between the consciousness directing it and the phenomenal consciousness; for otherwise it would be pointless. Now the whole trend of modern psychopathology is to the belief that upon progressive psychic synthesis depends progress towards beauty, goodness, and truth. In other words, the narrower a particular consciousness and the less it has expanded so as to allow of common consciousness between it and other consciousnesses, the less in fact has it sacrificed its own particular interest in itself for a wider interest in the ever-broadening whole, the more subject it must be to ugliness and illusion. For, as is beautifully illustrated by Tagore in "Sadhana," the aspects of "self" in anything which debar it from linking up with other "selves" and so submitting to any personal change which may be necessary for the good of all, must, if we take an optimistic view of the universe, be destined some time to die. And since by "illusion" we mean anything which is, relatively to the truth born of an extension of consciousness, ephemeral (though the term is popularly used to indicate *very* ephemeral error only) these aspects must be illusory.

Now, if the above conception of progress be true—and I personally believe it to be true—what are we to think of the dissociation accompanying true automatic writing? So long as the phenomenal and the "automatic" consciousnesses are held apart by some form of illusory selfishness in the one or the other —some desire not to make the personal sacrifice or modification which would be necessitated by their coming together—then we cannot be certain that we are dealing with the truth or anything like the truth in the automatic consciousness. But, you may say, if you are so sceptical as this how can you defend your reliance on automatic writing to lead you to the truth about the person? My answer is that in medico-psychological work, I never do rely upon it in this way. *I rely upon it to lead me to the illusions.* When complexes revealed by the writing are fused with the ordinary consciousness, a higher kind of consciousness, which presumably has been latent, springs into life and forms the "wholeness" of the two, that is to say, envelopes the two in one, for their individualities are still continued. But the effect of this "incarnation" of a higher consciousness is not only to embrace the two which have now come to know and be known by each other, but also to condition the death of certain of their selfish illusions. There arises, in fact, a new vision, a new truth in that little part of the universe, and the material which formed part of the "automatic" conscioussnes that was, is now found to be the same as its original in certain respects only. Other aspects have melted away like a dream. For example, the unpleasantness of a memory may have gone, or what was in the limited "automatic" consciousness conceived as a memory of fact may now be recognised as fiction.

Then, again, there is another point. There are evidences that the "automatic" consciousness bears a very close relation to ordinary dream consciousness, and is it not well recognised that most dreams are, after all, in spite of their wonderful symbolical significance, "mere dreams," that is to say, erroneous and, it may be, incredibly immoral as compared with the waking vision? In view of all this, I am afraid we must always regard the automatic consciousness, in so far as we look to it for a revelation of *truth*, with deep suspicioon—even if it tells us that its communications come from spirits. And from what has been said it must be quite obvious that the waking *character* of the subject can never be a guarantee against the most untruthful though most ingenious concoction prepared in some isolated subconscious realm and kept alive by motives of interest, notoriety, "desire to communicate with the dead" and the like; and probably tracts of detailed memory may be utilised in a manner sufficiently extraordinary to appeal to the superstitious and make the mystery-lover thrill with pleasure.

But this does not close the door against investigations which have as their object the discovery of truth through automatic writing, and of genuine spirit communication or telepathic phenomena. It merely serves to show what we are up against in such investigations if we prefer truth to amusement. One thing seems certain. If automatic writing is to be pressed into this service, it must be proved by abundance of evidence that it is emanating from consciousness other than the self-blinded variety which one is constantly meeting with in ordinary experiment; and the character of the subject goes for next to nothing. Finally, if automatic writing is necessary for revelation of anything other than illusion, the inference must be that it is the phenomenal consciousness which is too small and too self-bound to see beyond its own nose, the other being capable of greater extension and communion with the universe beyond it. And that this may sometimes be the case seems undoubted (see William James's "Varieties of Religious Experiences"), the state of affairs being the reverse of what is ordinarily met with in psychopathology. Indeed, from the normal point of view, it is doubtful where the greater truth first grows in the mind, but the greatest truth must always await the inclusion of the phenomenal consciousness.

THE CAUSES AND TREATMENT OF JUVENILE DELINQUENCY.

BY CYRIL BURT.

II.—EMOTIONAL CONDITIONS—*Continued.*

2. GENERAL INSTABILITY.

Hitherto I have spoken of the several human instincts, with their corresponding emotions, as if each were inherited in total independence of the rest. In actual fact, an excessive tendency to one particular instinct appears (at any rate as a fairly general rule, though not of necessity with each particular individual) to be accompanied by a more or less excessive tendency to the rest. The child who pilfers, is nearly always secretive; usually disposed to petty sexual faults; often a truant; not infrequently ill-tempered and pugnacious; and yet, in some cases, inconsequently enough, peculiarly generous, peculiarly affectionate, and liable to heart-broken tears of repentance. Thus, as with intellectual capacities, so with emotional; a single central factor pervades them all. The central factor underlying intellectual processes has been described as "general intelligence." The central factor underlying instincts and emotions may be termed "general emotionality"; and persons whose general emotionality is developed to an exceptional degree may be technically designated "unstable."

Of the delinquent children I have examined, nearly one-half suffer from a characteristic instability, as thus defined. In many the instability is so extreme and ineradicable as to be validly distinguishable as "temperamental deficiency";[1] on grounds of a definite defect, not of intelligence but of temperament, the child seems urgently to need, for the protection both of himself and of others, permanent segregation, or at least prolonged supervision and guardianship. Among all the inherent psychological features of the delinquent, emotional instability is thus one of the most frequent, as it is one of the most influential.

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[1] For purposes of rough diagnosis I should define a "temperamental defective" as one whose inborn instability was so excessive that his control over his instincts and emotions generally, was weaker than that of a child of half his natural age, or (in the case of an adult) than that of a child of only seven or eight. Evidence that the deficiency had existed from birth or from an early age would be necessary to rule out the possibility of merely "adolescent instability." It should be noted that this state of instability may be aggravated and perhaps even produced by other physical causes—particularly, those vague conditions, chiefly perhaps catarrhal, which are loosely comprehended under the phrase "rheumatic diathesis," and which exhibit their clearest psychical effects in the numerous cases of a choreic or sub-choreic type to be met with among London delinquents. Encephalitis lethargica, where it has attacked with no great severity a child between the ages of seven and ten, commonly leaves as a sequel a strange and troublesome instability—due perhaps to the partial destruction of the more recently acquired powers of self-control, and leading often to the commission of petty impulsive crimes. In such cases, the successful treatment or the slow amendment of the underlying physical cause will gradually remove the moral symptoms, if they have not become fixed by habit.

Treatment.—The unstable delinquent should be treated primarily for his instability, rather than for his delinquency. The delinquency, as a rule, is but the most flagrant symptom of the deeper emotional excitability. The treatment most appropriate to the unstable child I have discussed at length elsewhere.[1] Here I need only point out that the hypothesis of "general emotionality" goes far to explain what is so perturbing a feature in dealing with delinquents of this type. If one form of misconduct is suppressed, another form very frequently emerges in its place. A child who has apparently mastered this bad temper will perhaps take later to wandering; cure him of his wandering, and he begins to steal; break him of stealing, and a year or two later he (or, it may be, she) reappears as a sex-delinquent. There seems, as it were, in the central fund, a fixed and indestructible quantity of superfluous emotional energy, which, if one outlet for its overflow be stopped, is forced to find another.[2] With such cases, therefore, all measures, to be permanently effective, must deal radically with the more profound and more general lack of temperamental balance that underlies the superficial misbehaviour. Mere repression is more likely to aggravate the disorder than to mend it.

Habit-Formation.

In man, the primitive instincts have, at the beginning, little of that fixed and inevitable fatality that marks the instinctive actions of the lower animals—of the bee, the moth, the reptile; otherwise, we should be, every one of us, irreclaimable criminals, condemned to the gallows from the cradle. Human instincts are pliant and uncertain tendencies, seeds that may never spring up, cuttings that may never take root, unless planted in a suitable soil and watered unceasingly by appropriate stimuli; tendencies, too, which, once they have risen, may still be bent this way or that, like a green and flexible shoot beneath the hand of the trainer. Opportunity and exercise are indispensable to their growth.

The working of the specific instincts in their original form may thus be either permanently fixed, or else modified and extended, by the general laws of habit.

(a) *Fixation.* The continued and successful repetition of a mischievous act inevitably strengthens the corresponding tendency; so that, in the end, the act, upon the slenderest pretext and the slightest provocation, automatically renews itself, even where the best efforts of the delinquent are opposed to it, and even where its consequences can achieve no success and yield no pleasure. Here it is not so much the continuance, the bare repetition, that is operative, and at length converts a transient impulse into an established habit; what counts is rather the pleasurable success which, from the first has attended the instinctive reaction. Accompanying pleasure stamps in a tendency; accompanying pain hammers it out. If there are no occasions for an instinctive misdeed, or if, whenever the occasions for the misdeed occur, it is infallibly detected, and so from the outset brings, not pleasure and satisfaction, but immediate pain[3] and discomfort (if only the discomfort of failure), then the instinct is likely to atrophy. It lapses, and loses all its force, either from disuse or through unsuccessful usage. Habit-formation is thus always the crux, both in the making and in the unmaking of the youthful criminal: and, when the original instigating cause has been removed—the physical trouble cured or the bad companionship broken off—the delinquency may still continue by sheer inertia of habit.

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[1] *Child Study*, 1917, Vol. X., pp. 61-78. "The Unstable Child." I have there distinguished the two commoner types of instability—the sensitive or repressed, and the demonstrative or unrepressed; and have noted the commoner complications associated, or supposed to be associated, with its presence—so-called hysteria, epilepsy, psychic constitutional inferiority, moral degeneracy, and so forth. The distinctions are often obscure, but sometimes highly suggestive in dealing with delinquent individuals.

[2] Since the outlet need not necessarily be an anti-social one, there is here a useful principle of reform. Excite an interest or emotion of a less ignoble kind; and this may attract to itself, and drain harmlessly away, the exuberance of animal spirits.

[3] Here, of course, lies one of the chief psychological sanctions for punishment. The other—more widely recognised, but less effective in practice—depends on the memory of past pain to evoke the instinct of fear. But with the young and the unstable an instinct aroused by a past memory is a poor motive; and the calculation of consequences—pleasant and unpleasant—is seldom to be relied upon.

(b) *Modification.* Sometimes, however, the conative impulse, the mental energy or urge behind the instinctive action, is so intensely vigorous, that, if at first one method fails, another and then another is persistently attempted, failure or obstruction seeming to intensify rather than to efface the driving effort, until by trying, trying, and trying again, some line is hit upon that brings at last success. The instinct is thus to be conceived as a force or tendency pushing wildly in the dark towards a vaguely wanted end. So long as this end is not attained, the pent-up emotional energy leaves its possessor in a state of restless craving; and impels him to keep testing, and to keep varying, alternative means of possible gratification. The more intelligent the delinquent, and the more powerful the emotional spur, the more wide and the more ingenious is the range of varied effort. The variations themselves, however, are, in the younger child as in the intelligent animal, as a rule adopted more or less at random; there is comparatively little that is deliberately schemed; the apparent change of tactics is simply the blind effort of a strong head of water to stream down hill—round this corner, over that obstruction, through yonder channel—until at length relief is reached; the ultimate satisfaction then fixes the new course of action, in place of the simpler mode that was inherited; a new habit has been learnt. That the acquisition of fresh reactions is thus a slow and roundabout process is a circumstance offering a great and precious opportunity to the alert reformer; who, during this protracted phase, may step in, and by watchfulness and ingenuity forestall the triumph of the more probable and the more intelligent designs.

By the processes of habit, then—by "trial and error," and by the fixing power of pleasure and success—new and more complicated reactions are achieved, elaborated always out of the simpler and more primitive instinctive tendencies, and under pressure of their emotional stimulus. Now, an instinct, as we have seen, is essentially an impulse to respond to the reception of a specific stimulus by making a specific reaction. Hence, the original tendency may be modified either upon its receptive or upon its reactive side. A new stimulus may acquire the exciting power of the old one; a new form of behaviour may supplant the original. And, in either case, these fresh acquirements are formed—linked on, as it were, to the central and persisting core of the primary emotion—by the operation of the well-known principle of association.

(i.) *Modification of Reactions.* At the beginning, the reactive side of most instincts consists, as we have noted, of crude elementary movements—crying, striking, running away, snatching, swallowing, cuddling, and so forth. These inborn reactions of the tiny baby are inadequate for the wants of the older and more intelligent child; and the growing infant quickly learns to substitute for them new modes of conduct, more subtle in character and more complex in form. One important direction which these subsequent modifications follow, consists in the use of the peculiarly human faculty of speech in place of the coarse hereditary movements. The child's anger comes to vent itself rather by the utterance of abuse or of profanity, instead of the primitive kicking and biting; his sex instinct may issue, not in the original physiological reactions, but in obscene chatter or lewd anecdote. A second direction lies in the use, or misuse, of the appliances and tools of civilisation. The jealous child may pen abusive letters; the over-sexed may pencil improper pictures, or chalk up indecent words; the choleric youth finds that a knife or a revolver is a more effective weapon of intimidation than nails and teeth and fists; the greedy child, who began by grabbing tarts and sweets, learns that money affords a means, safer and surer, though more circuitous, for gratifying the same original desires.

(ii.) *Modification of Stimuli.* On the receptive side, the stimuli which at first were alone able to excite the instinct are similarly supplanted or multiplied.

This change and this extension are as before effected by association. Here, however, association works in a fashion somewhat more direct. It follows, as traditional psychology has recognised, two main types—association by contiguity and association by similarity. In the former case, the connection is accidental and illogical. In the latter case, the connection is one of resemblance, though the resemblance may be quite external and inessential. A youth, for example, under the spell of the sex instinct, may desire the presence of some particular girl. Circumstances, however, may place the girl herself beyond his reach. His emotion will then find a species of vicarious excitement in gazing, not upon her bodily presence, but on a photograph, which resembles her, or on some garment, flower, or other article, which has been in contact with her person. Not uncommonly theft and even violence are resorted to for the possession of these stimulating substitutes. Rationally and objectively regarded, articles of either sort appear equally useless for the physiological satisfaction of the instinct. Nevertheless, through association—an assocation due to visible similarity, in the one instance, and to accidental contiguity, in the other—the substitutes gain almost the same psychological potency as the presence of the beloved original in the flesh. They prompt the same thoughts; they excite the same emotions; they arouse the same romantic fancies. In short, by virtue of a suggestiveness purely subjective, they are now, for the lover in question, invested with the same meaning, the same profound significance, as the actual sight or touch of the person to whom they are mentally related. Such associated substitutes may, with no straining of terms, be called the sign or symbol of the primary stimulus.

Much crime and much delinquency is symbolic in this sense. A boy who cannot read, steals a number of dull unillustrated books; another collects odd pieces of machinery—the chain of a bicycle, the receiver of a post-office telephone, innumerable small spare-parts of motor-cars; a girl, who has no taste for jewellery, suddenly appropriates a locket and a ring, neither of which she ever wears. To the logical onlooker, such thefts will seem, at first, entirely motiveless. But, reading deeply in the thief's past history, tracing gradually the lines of connection below the level of his consciousness, the patient investigator soon discovers that the apparently unwanted articles have acquired for the child (how, the child himself could hardly explain) some rich and emblematic value. The girl just mentioned had many opportunities of stealing rings and necklaces, at once more costly, more appropriate to her person, and more easy to abstract without risk of detection. She these passed over, to take two particular trinkets which plainly had for her some unique emotional appeal. The ring stolen was a wedding ring; and, by taking it, she felt, in a vague irrational way, something of the satisfaction which the ceremony of marriage would have given her. The locket was a heart-shaped locket; and, in her half-realised fantasies, stood for a token of the affections of a person whose heart she secretly desired to win. Many offences, on the surface so meaningless and foolish, are to be thus explained.[1]

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[1] The suggestion of symbolic theft usually arouses incredulity in the mind of the rational layman. The term and the explanation seem so far-fetched and so bizarre. Symbolism, however, plays an important part in the mental processes of the most normal; and becomes immediately intelligible, if it is realised that symbolisation is nothing but a special and natural result of the recognised principle of association by contiguity or by resemblance. The mental processes involving in symbolic thieving are no more fantastical than those involved in the symbolisms of everyday life. We are, for example, every one of us, profoundly moved when we hear that a member of a foreign state has trampled upon the Union Jack, or insulted the Cross. The one is but a piece of cloth, the other a piece of wood or metal; yet by their design they symbolise our nation and our religion; and are thus capable of sustaining through their associations the weight of feeling and interest that really belong to the abstract ideas they stand for. Of all instances of symbolic crime perhaps the clearest and the best established are those of fetishistic stealing. Everyone is familiar, from the newspapers if not from direct observation, with cases where a youth cuts off and appropriates the hair of an unknown woman; or purloins her shoes, her handkerchief, or portions of her clothes. Here obviously the article purloined is wanted, not for its objective value, but purely for its subjective, and usually erotic, associations. The undergraduate's raid for "trophies" is symbolic theft of a not very different order. Indeed, the very act itself may be committed solely for its symbolic significance as an expression of defiance or revenge.

(B) SENTIMENTS AND COMPLEXES.

We have thus passed, in our study of the delinquent's temperament and character, from the inborn levels to the acquired, from those specific mental systems which are inherited at birth to those which are built up through training and experience. For these acquired systems, into which ideas, emotions, and mental tendencies generally, become organised, probably the simplest and most intelligible name is "interests." Older English psychologists spoke of "passions," whether for persons or for topics, thus emphasising the emotional side more than the intellectual. Contemporary psychologists have in England preferred the expression "sentiment," thus indicating that a personal rather than an abstract character is distinctive of the most common and most fundamental interests. More recently still, on the Continent, psychoanalysts have introduced the term "complex," which, in its stricter use, denotes a system of ideas and conative tendencies that is in part repressed, and has in consequence received a relatively morbid or pathological colour.[1]

The sentiment, interest, or complex, then, is essentially a system of instinctive or emotional tendencies organised by association either about a single central idea, or about an associated circle of ideas. The associations themselves are usually unconscious, being produced, not by an apprehension of logical fitness or relation, but by an unapprehended or insensible linking, due to accidental contiguity in time or place, or to similarities and likenesses comparatively inessential and generally unperceived. In the last resort, sentiments, like instincts and reflexes, are to be regarded as physiological mechanisms, the acquirements of the individual, however, rather than inheritance of the race; and the associations which form them simply as newly organised nerve-paths within the nervous system.

Of all the interests that growing children form, the earliest and the most universal are the sentiments for their parents. Almost every one of the child's most primitive emotions—fear, tenderness, submissiveness, perhaps anger, curiosity, and even sex[2]—come to be variously connected with the thought or perception of its mother or father—the whole thus forming a highly excitable tissue of feelings and conative tendencies. Later on, the child evolves interests or sentiments of a similar kind for other persons about him—his brothers and his sisters, his play-fellows and his teachers, and, in after life, his employer, his sweetheart, and his wife. Such further interests are seldom constructed *de novo*, nor formed, as it were, *in vacuo*. In general some simple and suggestive feature in the new personality links the thought of him directly on to the preformed memories, or to the pre-existing mental attitude, that had grown up around the old.[3] The turn given to the child's personal interests during early years thus lays the foundation for his social outlook during all his subsequent life.

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[1] The term "constellation" is adopted by psychoanalysts for systems of associated ideas which are unrepressed, and which are relatively weak in emotional tone and conative tendencies. For "interests" viewed from this intellectual standpoint the traditional term in psychology is "apperceptive system." By many recent English writers, among them some of the most lucid adapters of psychoanalytic views, the term "complex" has been taken over as a brief synonym for mental systems of every kind (McDougall's "psycho-physiological dispositions")—an extension hardly to be commended.

[2] It would be instructive to reconsider the various stages of fixations that arise in the development of the personal aspects of the various instincts, particularly the instinct of sex, considered as phases in the evolution of imperfect sentiments. Such a study would throw much light upon the deeper motives of delinquents. Many, for example, show fixations at, or regressions to, the auto-erotic, narcissistic, and anal-sadistic levels, that are so characteristic of neurotic adults. Limits of space, however, preclude such speculations here.

[3] This process may sometimes be a sharp and violent one. The singular phenomenon described as "love at first sight" is of this order. The child or youth has already built up a sentiment or interest in some idealised personality, modelled in its ultimate beginnings upon the first person who interested him, namely, his mother or father; into this preconception, in virtue, it may be, of some entirely trivial similarity of name, feature, mode of speech, or characteristic manner of behaviour—the newcomer fits instantly; and so receives the whole concentrated volume of transferred emotion that originally belonged to a parent. Unreasoning prejudices, "hatreds at first sight," may be conceived in precisely the same sudden way.

"I do not like thee, Dr. Fell,
The reason why I cannot tell."

And thus a child, who has developed into a rebel at home, falls at once into an attitude of antagonism, when confronted with a new authority—a teacher or an employer—whose situation is for the young mutineer reminiscent of his own stern or tyrannical parent.

Sentiments, however, are not concerned with persons only. Interests are progressively developed for certain inanimate objects, as money or school, or for quite abstract ideas, as a hobby, a profession, or even an ideal of virtue and conduct.

Together with its correlated emotion, an instinct, we have seen, is essentially a reservoir of mental force. Being by definition a co-ordinated system of such instincts and emotions, a sentiment or interest provides an accumulated magazine of emotional energy and power. Sentiments, therefore, are the most potent ingredients of character in all who are old enough and intelligent enough to have their mental processes systematised in this way: in the direction of conduct and behaviour, they constitute the ruling guides and yield the strongest incentives. They furnish our chief aims, our chief ideals, and the vigour and enthusiasm needful for their attainment.

Interests or sentiments may be either positive or negative, either sentiments of liking and attraction, or sentiments of hatred or dislike. And, again, in the production of delinquency, the positive interests (or sentiments of attraction) may themselves operate positively, by their direct influence in undesirable directions; or they may operate negatively, by their relative weakness or their total absence.

1. SENTIMENTS OF ATTRACTION.

(a) *Absence of Desirable Interests.* The absence of desirable interests seems in delinquent children far more marked and far more frequent than the presence of undesirable interests. The mere consolidation of our miscellaneous impulses about a single harmonising purpose is, in a measure, a guarantee of stability and steadiness. Sentiments are regulators. They absorb superfluous energy; they keep the machinery of life in even motion, like the fly-wheel of an engine or the balance-wheel of a clock. Without such controlling mechanisms, we should be at the caprice of every changing instinct that every passing stimulus happened to touch off. Observe how the young lover, the newly-wedded wife, or most of all, the young mother, settles solidly down—no matter how wild and irresponsible their previous career—to a life of maintained devotion: and, again, how, on the death of the beloved object, or disillusionment about the cherished ideal, the bonds are loosened; the world seems suddenly empty of aim, of meaning, even of reality; and existence sinks down, regressing or relapsing to the almost animal level of infantile impulsiveness and cheap self-gratification.

The love of virtue or of a virtuous person is one of the most effective inhibitors of vice and crime. The child, therefore, who nourishes a sincere affection for his teacher, or a loyal enthusiasm for his school, rarely succumbs to the cruder forms of temptation. The child who has no such attachments, nor other attachments to do their office, has nothing within him to rein him back when face to face with some seductive mischief. It is the aim of the reforming psychologist always to build up such counteracting interests, to harness the child's pleasurable instincts on to some external object, to inspire him with some genuine fondness for his family, some personal sense of self-respect, some *esprit de corps* infused in him by his school, some all-engrossing eagerness for his work, for his sports, or for a refining form of recreation.

(b) *Presence of Undesirable Interests.* Undesirable interests, when present, may produce delinquency in either a direct or an indirect way. At certain ages children regularly become hero-worshippers; and the idol selected may be one who offers a dangerous model to the undiscerning devotee. With the girl, some daring cinema actress, with the boy, some irresponsible comedian or wild adventurer, too often furnish the dazzling ideal which most easily inflames a young infatuated fancy; or, it may be, some older associate of reckless habits and unscrupulous morals may set the mould upon which the aspiring disciple is shaping his conduct, the pattern he is striving to live up to.

Nor are these degrading interests exclusively of a personal type. An exciting emotion itself may become the subject of an emotionally exciting sentiment, an experience sought for its own sake :

Aimer est le grand point; qu'importe la maîtresse?
Qu'importe le flacon pourvu qu'on ait l'ivresse?

The primitive stimulus that naturally excites some one particular instinct readily develops into the focus of a systematic interest, directly demoralising in its influence on action. A child may acquire a passion for extravagant edibles—sweets, tarts, and similar delicacies, the mere sight of which it is unable to resist. An older youth may perhaps develop a craving for drink in some intoxicating form. Sexual objects grow easily into permanent topics of attraction, and thus become capable, not only of arousing the inborn sex-instinct which constitutes the original response to them, but also of provoking other instincts—curiosity, mild and pleasurable disgust, the cruel or vicious side of the instinct of anger, the self-martyring element in fear and submisiveness; so that, while the healthy boy or girl makes a master-passion of some wholesome game or sport, the pervert's ruling pre-occupation becomes the study of sex in all its manifold emotional aspects. In each of these instances the passion is itself a vicious one. By living solely for one instinctive pleasure, the child becomes a glutton, a drunkard, or a libertine.

But in many cases the relation of the central object which has aroused a permanent interest to the primitive impulse which constitutes the perpetrated crime is, in its working, much more indirect. The boy may have acquired a habit of cinema-going; the girl a hankering for fine clothes, or the glamour of West-end life; and urged, not by a strong instinct of acquisitiveness or sex, but simply to indulge these insatiable cravings (cravings harmless enough within themselves), they take to a career of pilfering or prostitution. Or again, a child may slowly develop a violent interest in money. At first envisaged purely as a means, as an easy instrument for gratifying his various whims, money comes easily to be treated as an end in itself. Money itself is not the natural stimulus for any inborn instinct; nor is an avaricious passion for it in itself a crime. Yet from such a passion crimes may, and perpetually do, originate indirectly. There is many a young person who finds himself at last utterly unable to withstand the glitter of a coin, or to check the thought of a purse or pocket as an accessible receptacle of coins, or of a row of coats in a cloakroom as a possible collection of purses and pockets; and he goes ransacking and plundering, with something of a miser's purposeless mania for cash as cash.

Certain interests or passions—as gambling or betting—are both criminal in themselves, and lead easily to other and derivative acts of crime committed for their sake. Some of the instinctive lusts already mentioned—for sweets,[1] for drink, for sexual pleasure—may ultimately acquire this two-fold influence for ill.

2. SENTIMENTS OF ANTAGONISM.

Sentiments of open hatred are in the young comparatively rare. Occasionally, however, one finds a youth so inspired with a passion of revenge that he either commits an assault upon the object of his enmity, or commences a series of defiant, malicious, or exasperating enterprises, solely to vent his vindictive fury. Where, for instance, a child steals exclusively from a single person, it often proves that the instigating purpose resides, not at all in the use or value of the articles purloined, but simply in the vexation their loss will occasion to the owner. Where another, hitherto a paragon of punctual habits, devoid of any taste for wandering or adventure, plunges, after a few weeks in a new class, or a few months in an upper department, into a spell of truancy, it will often be discovered that the animating motive was simply to escape a repugnant lesson, or to avoid a detested teacher.

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[1] In the young child the craving for sweetmeats, like the craving for drugs, drink and tobacco in older persons, may be based, not so much upon the primitive appetite, as upon a prolonged experience of their sedative effects. The child, pursued by worries of the type to be presently discussed, often discovers a strange infantile solace in sucking perpetually at toffee. And when the toffee is stolen toffee, its savour seems doubly voluptuous, and the consolation twice as sweet.

3. Mixed or Ambivalent Sentiments.

As a rule, however, a full analysis will show that a sentiment for a given person is seldom one of simple love or simple hatred. Love, however constant, is rarely undiluted; and hatred, however unrelenting, is rarely pure, unmixed aversion. Most sentiments are an odd, incongruous, double-edged combination of the two. The young unstable child will sometimes exhibit both aspects with equal clearness, displaying for the same parent or the same teacher an extravagant affection one day, and the next an inordinate antipathy, alternating this way or that simply as the element of tenderness or anger, of submissiveness or aggression—emotions which are all embodied in the total sentiment—may chance for the moment to prevail. In persons less emotional and more intelligent, as, for example, in the older child of moderate temperament, sheer consistency of conduct requires that public behaviour be superficially uniform, manifesting only the one or the other of these incompatible aspects to the seeming exclusion of the reverse. But the anger and the irritation that are inevitably aroused are only repressed, not eradicated—checked, not choked. The persons with whom we have to live are the very ones whose daily demands, daily prohibitions and daily mannerisms, touch most insistently upon our sensitive nerves. Just because they are dear to us, their idiosyncrasies and their injustices hurt and distress us most. But, for the very same cause, we try to muffle and mask—we try to swallow and keep down—we even try to convince ourselves that we have successfully abolished—these petty feelings of grudge and irritation. And, all the while, the inward strife between our love and our vexation, our resentment and our respect, maintains a tension at last intolerable. In the end, perhaps after some slight and insignificant repulse, the long-standing passion of affection becomes, at a flash, transformed, to the surprise of all beholders, into a sudden and overwhelming paroxysm of rage. The underside of the sentiment has turned uppermost. And, blinded by some such revulsion of the feelings, the exasperated parent thrashes his infant child; the scolded daughter strikes her mother; the jealous husband strangles his wife; the jilted lover shoots the girl he loves.

(a) *Step-mother Complex.* Among juvenile cases the most important of these double-sided sentiments are to be discovered in the delinquent's attitude towards the parent of the same sex. The girl, for example,[1] like all children during the first year or two of life, starts by developing a sentiment, at first almost wholly loving and pleasurable, for her mother. During those earlier months her mother is the source of all the joy, care, and protection, that she gets—the bestower, indeed, of almost all that in her simple state of life she needs. As the child grows up, learns to walk unaided, and evolves independent wishes of her own, wishes often at variance with those of the mother, the mother ceases to be for the daughter her only cherisher and preserver, and begins to be looked upon as an unnecessary obstructionist, an unsympathetic kill-joy, forbidding or defeating all natural and pleasurable impulses. Other emotions thus creep into the circle of the sentiment. Whereas hitherto the dominating emotions awakened by the mother were tenderness, submissiveness, and a nestling desire for close physical contact, it is resentment, dread, aggressive obstinacy, or a desire to flee far from restraint, that come now to prevail. Often the other parent, by his more indulgent attitude, unwittingly intensifies this incipient pique. From his natural fondness for a child of the opposite sex, the father is apt to humour and indulge his tiny daughter, leaving reproof and correction almost entirely on the shoulders of the mother. If presently the mother transfer her time and attention to the care of some newly-arrived baby, or if the father at times display his conjugal affection for his wife, leaving the forgotten favourite for the moment mortified and in the cold, then an unreasoning jealousy or envy still further aggravates the child's estrangement, and adds to her gathering hostility towards the parent of its own sex.

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[1] I have endeavoured to analyse at length a representative instance of this general type in a series of papers on "The Dreams and Daydreams of a Delinquent Girl." *Journal Exp. Ped.*, Vol. VI., Nos. 1—4.

Too young to comprehend the true origin of its new sensations, the little malcontent still feels the need of justifying its unfilial disaffection to itself. A curious but a common solution is afforded by the spinning of droll, self-deluding fantasies. The child in such a mood will often persuade herself that the original mother who was so loving, and the present mother who is so constantly interfering, must be two distinct persons; and that the present mother cannot be her own true mother, but a hateful interloper—a foster-mother or a step-mother, with no genuine title to affection or obedience. Should there exist, in the relations of the parents with each other, any hint of the mysterious or the irregular—if, as not infrequently happens in delinquent families, rumours reach the child's ear that one parent or the other has been divorced, or has had previous *amours*, or has re-married, or has quarrelled with the other partner, then the imaginative child feels that she has some ground of fact for the romances she is weaving. Children are bitterly sensitive to untruthfulness in their own parents. When the parents have concealed from the child the fact that she is illegitimate, or when, as is still more frequently the case, they have, in answer to her inquisitiveness upon the general physiology of birth, always pervaricated or lied, then, as her eyes are unsealed, and the true account begins at last to penetrate her growing comprehension, her faith in the honesty of adults and in the true love of older relatives may be shivered at a blow. Of the new disclosures not a word will be uttered. Shame, shyness, or sheer ignorance and confusion as to the inner psychology of her own unhappiness, will prevent such a child from ventilating the crucial question either to her parents or to any other *confidante*.[1] The strain, however, cannot continue. At length the girl breaks out. After a phase of unhappy brooding, of internal stress and struggle, the accumulated grievance, heightened and embellished by the unrecognised inventions of her fancy, expresses itself in some apparently unaccountable mutiny or crime.

Upon such a basis the disillusioned girl may build up habits of anti-social conduct in every shape. With an unrepressed temperament, the pent-up grudge may simply fulminate into open disobedience, physical violence, and intractable behaviour of various petty forms. In the more repressed type the tormenting tension may at last explode in some desperate delinquency, to the unobservant eye quite motiveless, and on the surface wholly unrelated to the fundamental trouble. The child, perhaps, will disappear from home; she may convince herself that she is upon a genuine search for her real father or her real mother;[2] more probably, she is seeking, quite unconsciously, for some parental substitute, some kind-hearted stranger who will indulge her wishes, and lavish on her the affection, the presents, and the gay time for which she inwardly longs. Frequently she will form a sudden and sinister connection with some older girl, or some older youth, who, by an accidental feature, reminds her of the more congenial aspects of her actual parents; and the new companionship may be the beginning of a separate and often disreputable life of semi-independence.

The way in which tiny children of eight or nine, outwardly the very perfection of radiant innocence and charm, may yet contrive to live a hidden and corrupted life of their own, is strikingly portrayed in Henry James' weird narrative, *The Turn of the Screw*.

[2] The delusion seems incredible in a sane and grown-up girl. It must be remembered that, in these emotional moods, the individual is temporarily flung back, by part of the general process, into an inward mental condition which is singularly childish and even infantile, and constitutes an element of that state of happy baby-dom to which she is secretly yearning to return.

(b) *Authority and Disgust Complexes.* With the boy, the history is sometimes the same with the sexes inverted. The process, however, is somewhat simpler. The boy's first attachment to his mother is an attachment to a person of the opposite sex; and, therefore, a relatively permanent one. There is not that curious transference or displacement of affection, so disturbing to the younger girl, from the mother, who is the child's first favourite, to the father, who is usually her second. More often than not, it is, with the boy, the father who punishes and scolds, and the mother who pets and spoils; and these dual relations are preserved from the earliest years until the latest. The boy's standpoint, therefore, towards the father becomes one of more open revolt and more active rebellion. He easily builds up a lasting attitude of resistance towards all quasi-paternal authority; and any person and any institution that by the exercise of such authority remind him of his father—whether school-master, employer, police, or magistrate—school, church, factory, office, and even society as a whole—are apt to re-arouse this ingrained feeling of antagonism.

This double or "ambivalent" disposition towards the parent of the same sex—a negative disposition of hatred, usually repressed, co-existing side by side with a positive disposition of outward love and apparent deference, often a little forced and overdone—is a feature almost as common in the history of the neurotic patient as it is in that of the delinquent. In neurotics, however, as Mr. Flügel has pointed out,[1] the positive or love-aspect, as a rule, predominates. In delinquents, if my brief records may be trusted, the negative or hate-aspect seems in general to be stronger. And we must conclude that in such instances there has probably been at work some additional motive, strengthening the antagonistic tendencies. The source of this further reinforcement is somewhat obscure. One recurrent symptom in the history of my cases seems suggestive. It is apparently the nature of many a shameless offender to have always found disgusting things not repellent but piquant, not painful but pleasant. Activities connected with the daily physiological processes of eating, drinking, washing, dressing and excretion are not, as with the normal child, controlled into decency by the unpleasant repugnance which they naturally arouse, but seem rather to provide an occasion for a depraved form of pleasurable excitement—for indecorous habits and gross practices whose object is to gain for the young pervert the thrill of mild self-caused disgust, and perhaps also the glee of revolting his companions and shocking his neighbours.[2] During earlier years, it falls upon one or other of the parents, usually upon the mother, to check these offensive inclinations. Often the methods of restraint are strict and summary; and end by promoting in the tiny child. not a fastidious cleanliness as they are meant to do, but simply an added obstinacy and opposition. He thus, from the very first year of life, begins to develop a notion of his mother, as one whom it is easy to disgust, and as one who is always unwarrantably interfering with his most private and pleasurable functions. The former notion puts into his hand a ready weapon; to do disgusting things becomes, by daily experience of its effects, a cherished and convenient symbol for expressing social defiance. The latter feeling—the sense that the keener physiological pleasures have always been regularly disturbed by the parent —helps greatly to foster and to reinforce the later childish resentment, which, as above described, so easily arises, even in an infant less lost to shame, upon a basis of wounded love or jealousy.

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[1] *The Psycho-Analytic Study of the Family,* p. 117, cf. p. 177.

[2] The observant student will notice that the obscenity of young delinquents (particularly, it would seem, of those belonging to the type above described) is in its content not sexual in the narrow sense (though often erroneously taken to be such), but rather excretory—anal, urethral, or coprophilic. It thus provides a further indication that the subversive emotion is connected not so much with the instinct of sex, but more with that of disgust.

Moral Conflicts between Sentiments and Instincts.

In the foregoing discussion, we have remarked from time to time how the formation of composite sentiments may tend to generate, or at least intensify, a mental struggle between two opposite emotions; and how the tension thus created provides one of the commonest pre-conditions, and affords one of the most provocative occasions, for an outburst of delinquency. We have now, therefore, to examine more precisely the nature of this inner conflict.

Where two incompatible instincts are excited by one and the same situation, an unpleasant state of suspended reaction will ensue. A solitary child, who sees a tart upon the pantry shelf, may be moved, first, by a natural desire to take and eat the tart, and, simultaneously, by a fear of the punishment that may follow. Where the two impulses have behind them no further reserve of force, the struggle is brief; the strongest instinct (usually that aroused most directly by the stimulus present to the child's eye) quickly gains the day. If, however, one of the instincts (for example, that of fear) is fortified by some strong sentiment (for example, a sentiment for parental authority), then, as a rule, the other, unsupported, is at once overborne. But if, again, that other is also kept alive, whether by the recurrence of its stimulus (passing and repassing the open pantry door), or by the persistence of some underlying mood (abiding hunger in the case we have supposed),[1] or, finally, by some strong sentiment of its own (a grudging envy, it may be, of richer companions or older parents who can have as many tarts as they want), then the struggle between the two contending impulses, thus severally and differently reinforced, may be indefinitely prolonged.

As a rule, in a mind emotionally well-balanced and intellectually well-organised, provided with an environment no less plastic and adaptable, some harmonious adjustment is in the end worked out, some compromise which reconciles—as it were, by a higher synthesis—the two antagonistic desires. The child, for example, says in effect: "I won't take the tart immediately. But I won't give it up. I'll go and ask mother if she can spare it."

More commonly, however, the issue is not fought out to any reasonable conclusion, but simply shelved or shirked. To the superficial observer, indeed, one impulse may seem to have been victorious, and the other to have been defeated and effaced. But the defeated impulse is not destroyed, but only suppressed, not totally annihilated, only driven underground. There it festers like a hidden abscess, and at last must discharge. Mental energy, like physical energy, once it is accumulated and once it is set free, must find some outlet. If the natural and more obvious openings are blocked, it eventually bursts out through some unexpected channel of its own. The child may have stolen the tart, saying: "I shan't be found out; and I'm not afraid." Having consumed the tart, he is astonished to find himself in a frame of uneasy anxiety or of insincere defiance. His original fear, smothered but not dispelled, has formed that special type of complex known familiarly as a guilty conscience. On the other hand, the child may have retired from the scene of temptation, telling himself: "I'm not really hungry; and I can do without the tart." Ten minutes later, he is discovered in a flood of tears, or (as in another instance recently observed) furiously smashing in the grate the baby's bottle of milk.

The phenomenon of "side-burst" (if I may borrow from the plumber a homely hydraulic metaphor) is an extremely common process in the motivation of delinquency. Several types may be distinguished.

Of all forms of mental repression the simplest and most characteristic is that resulting from a conflict between some inborn instinct, on the one hand, and some acquired sentiment, upon the other. The inborn instincts, we have seen, are suited to life in primitive uncivilised conditions; the acquired sentiments are adapted to life in a civilised society. It is only to be expected that at times the two should violently collide.[1]

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[1] With other instincts, a mood of angry irritation, due perhaps to physical weakness or discomfort, or of sexual excitement, due to physiological processes or local irritation, or of disgust, due to dyspeptic nausea, will operate in the same reinforcing fashion.

(a) *Sex-Complexes.* In a modern community, of all the primitive instincts, that which has, at any rate among adults, to be most rigorously restrained is the instinct of sex. It is not surprising, therefore, that, influenced by the analyses of older neurotics, all writers on delinquency should have emphasised the widespread consequences of sex-repression. Our conventional reticence, our traditional taboos, all that in a well-bred child makes up his ideal of decent and decorous behaviour, leaves him, during early youth, with his sex-instinct, not only unsatisfied, but entirely ignored—cut off from all free association with uttered thoughts and avowed ideas. For this very reason, the few stray notions, the few sporadic memories, associated with the general problem, being themselves similarly stifled as soon as they arise, tend instantly to coalesce with the central and suppressed emotion. They crystallise about it below the surface of the mind, like precipitated chemicals round some impurity in the solution. The whole thus forms a submerged or subterranean sentiment, an unconscious interest with an activity, an energy, a life of its own; in short, a complex. In the child, it is true, repression seldom seems so complete as in the neurotic adult. He tries to forget. But there is rarely a genuine loss of memory; rather a silent intermittent worrying over the issue that has been raised. The real trouble may have started either in secretly acquired sex-knowledge, or secret sexual shocks and experiences, or in private temptations of a sexual kind. Note that it is not the mere possession of sex-knowledge or sex-temptations that is the real provocative; it is the repression of the knowledge or temptation so possessed. When this occurs, the ultimate result is not, as a rule, paradoxically enough, a transgression of a sexual kind, but some crime or misbehaviour of an apparently irrelevant nature. Here, indeed, are found the best instances of the remarkable but well-established phenomenon of *substitutional delinquency.* The child, half automatically, seems to be avoiding what he considers the greater sin, and indulging—by way of a distraction or relief—in some lesser criminality, some counter-blast which opens a safety-valve, stealing, violence, running away. Usually, by a link perhaps unknown to the delinquent, the substituted action is associated with the original temptation. Often the connection is of the symbolic type, as in the case already cited; stealing may symbolise a sexual act; running away may signify flight from a disquieting problem or from a situation subjectively intolerable.

In other instances, the association is one by simple contiguity of time or place. Perhaps, in the room or park where he now plans his new escapade, the child has witnessed some transaction of a sexual kind. Perhaps he has known in the past a profligate companion, a half-forgotten initiator, who once familiarised him with the practices (perhaps only with the ideas) both of sexual misconduct and of the recent substituted offence. The experience has passed into oblivion; but its effect has not been blotted from his brain. Some reminder in his present situation has ploughed up, from beneath the surface of his consciousness, a buried memory of things long past; some coincidence has evoked a lingering reminiscence of his earlier friend, and with it the former temptation. Recoiling from the coarser impulse, he flings himself into the milder of the two associated misdemeanours, which the thought of his old corrupter had thus re-awakened.[2]

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[1] Such conflicts are sometimes described (*e.g.*, by followers of Mr. Trotter's views) as conflicts between the herd instinct and an egoistic instinct, or again (by followers of Freud) as conflicts between the ego-instincts and a sex-impulse. The repressing force, however, in the former case seems not so much a social instinct as a social sentiment; and in the latter not so much an ego-instinct as an ego-sentiment, a sentiment of self-respect or self-maintenance.

[2] The association is often, at the time, quite unconscious—due, as it were, to some blind filament within the brain; and merely to render it conscious is frequently sufficient to cure the child.

Misconduct due to such a process has often a marked pathological character, inevitably recalling the obsessions and compulsions of neurotic patients.[1] The young and tender mind (to take a striking and not uncommon instance) is haunted by some lewd spectacle or picture, once witnessed; or harps morbidly upon some coarse and vulgar word, once overheard; and the recurrent imagery[2] provokes in turn some guilty ebullition, some associated and expressive act, which seems to yield a temporary respite from the infliction. Or, again, the guilty deed itself may show this compulsive character, conforming almost to the popular notion of kleptomania, pyromania, and the like. In such cases the child describes himself—it would seem in all sincerity—as irresistibly impelled to perpetrate some useless theft or to set fire to some gloriously inflammable pile; much as nervous adults sometimes feel forced to leap from every giddy height or into any dark and silent water. Having committed the offence, the child may penitently and spontaneously confess it; or, without confession, he may seem, at least, to have made no normal effort to escape detection; and even, in rare and dubious instances, he may seem to have genuinely forgotten it.

(b) *Complexes of Inferiority and Self-Assertion.* Sex-conflicts seem commoner in older children from better-class homes. In younger children the instinct which —at any rate in certain families and even in certain schools—seems the most frequently and the most consistently repressed is not sex, but self-assertion.[3] In humble dwellings, where harassed parents and numerous brothers and sisters are all huddled in the same over-populated room, sexual affairs can hardly be disguised for very long with any veil of mystery. On the other hand, the child's natural instinct to assert himself has ruthlessly to be crushed from the very earliest days. Much misconduct, serious as well as trivial, is a morbid reaction from this overwhelming constraint. Here, too, lurks the danger of institution discipline for delinquents of the unstable and excitable types. The effects of the coercion are much as before. The cramped and smothered instinct ramifies once again into an underground complex, which once again evinces in its structure the strength, the persistence, and the intricacy of a sentiment, rather than the simple flash-in-the-pan impulsion of an elementary instinct. Nearly every child, so long as he is a child, surrounded and suppressed on every side by bigger and more potent adults, is apt to develop an "inferiority-complex." Where the inferiority, inevitable to childhood, is still further aggravated by some physical defect or deformity, by some taint of birth or slur of history, the protesting victim is very prone to grasp at illicit compensations; and, almost justifiably as he may persuade himself, is tempted to make up for what he lacks in natural gifts and social privileges, by what he can secure by greater cunning and deceit. His conception of himself—his "self-regarding sentiment" in MacDougall's terminology—may come at last to be that of the martyred innocent, the self-vindicating rebel, with Robin Hood or Rob Roy MacGregor as his hero and his ideal.

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[1] The mechanisms under discussion are supposed to be so characteristic of the neurotic temperament that it may be asked whether delinquencies of this type are not confined to hysterical individuals. In some of my cases, undoubtedly the delinquency is simply a minor symptom of a definitely abnormal condition. But in most, the child's mental health is, so far as can be seen, quite normal. Of an intelligence up to or above the general average, the offender, it is true, appears, as a rule, to be of a temperament somewhat unstable and distinctly sensitive. But the real precipitating cause seems rather to lie in the attitude of the child's social environment—in the total absence, for example, of any sympathetic understanding or ventilation of the child's internal problems. And the delinquency itself arises rather as an alternative to a neurosis than as a part of one.

[2] Those who have emphasised the importance of obsessive imagery, as the indirect determinant of crime, do not indicate why the imagery itself is obsessive. They seem usually to assume in the erring victim simply a special susceptibility to visualisation. As a rule, it will be found that some complex underlies the obsession. A girl examined by me had committed a theft (her first) under the instigation of a recurring memory of a scene at a cinematograph, which she said depicted a theft. There was no doubt that a film shown during her visit did portray a burglary, in which a young woman was an accessory. Under analysis, however, she admitted that during the same visit she had been sexually molested by a neighbour; and it was a recent revival of sex-interests (by a display of somewhat suggestive cinema-posters which she daily passed) that brought back, with insistent force, the memory of the previous visit. In another case, an indecent formula (which the child must have heard many times before) suddenly began to obsess her after hearing it uttered, during a drunken quarrel at home, by her father.

[3] It is instructive in this connection to remark that the day-dreams of younger children are mainly fantasies of self-assertion and self-glorification; and very seldom, until adolescence, deal with amorous or erotic themes.

Conflicts centring about the self-assertive instinct or the self-regarding sentiment, although arising from the earliest years, exhibit their results most clearly towards adolescence. It is then that the child's sentiment for himself comes so perpetually into competition with his sentiment for his parents. There is, about the time of puberty—the very period when a child of this class is leaving the elementary school for work, and so turning from a subservient pupil into a self-supporting earner—a great growth in independence, and a sharp increase in the desire for self-reliance and self-guidance. The youth has to put away childish things, and to break away from the old home ties; and the emancipation is often doubly difficult, just because his attachment to his mother or father is so enduring and devout.[1] Where the clash is not external but internal, where the collision occurs not openly between a hardy, heartless youth and a strict, despotic parent, but inwardly, on the battleground of the child's own mind, between his[2] expanding need for an autonomous existence, and his life-long habit of dependence and deference to his parents, there the effects are most disastrous. Torn between piety and personal pride, the delinquencies to which in his desperation the struggling youth at length gives way have, in nearly every case, a morbid stamp. They are sometimes the first of their kind in which the child has indulged; and they may be so contrived that it seems impossible that the child could hope to get from them anything but misery and discomfort. With every possible luxury in his home, he yet prefers to pass his nights in the open. With all he wants supplied to him for the asking, he yet commits the most amazing thefts. Ultimately, perhaps, he absconds altogether, fired by some wild project of starting life anew in another town or country. The most serious, the most obstinate, and the most elaborately planned malpractices that I have encountered, have commonly been the upshot of conflicts of this type.

Mental discord may arise, not only between personal sentiments, such as those above described, but also between sentiments that are abstract and ideal, such as the somewhat philosophical interests connected with religion, duty, marriage, or one's own career. Conflicts, however, of this intellectual quality are, from their very nature, rare among children of the age and class of the ordinary elementary school.[3] And, further, it is only upon the surface that the issue is academic and theoretical. The contending views gain their persistence and their intensity from the fact that they are, in their fundamental character, simply rationalised symbols of deeper and more intimate emotions.

Treatment. I have no space remaining to discuss the subtler measures appropriate to motives operating upon these higher levels. Indeed, in most instances, the course taken needs to be so completely individualised that little generalisation can be possible. The one invariable essential is a full investigation of the whole network of converging factors, a complete case-history usually upon quasi-psychoanalytic lines. When all the child's circumstances, outer and inner, have been thoroughly explored, when the genesis of his troubles has been ultimately tracked back to the very earliest days, then the right remedy is usually self-evident, a simple corollary of sound common-sense. The most usual complexes, it must have been remarked, are, with young delinquents, parental rather than sexual;[1] directly or indirectly, they hinge upon the child's personal relations with the other members of his own family. Hence, to meet with any measure of success, all remedial endeavours must nearly always pre-suppose a temporary removal from the child's own home. When, in addition, a sympathetic *confidante* can keep in constant contact with the child's internal mental life; and can from time to time stage-manage his situation—his pleasures and deprivations—so that old habits have no opportunity for successful renewal, and new habits are progressively built up, perhaps by graded exercises, and, finally, new interests and new outlets are gradually supplied for superabundant mental energy, then (in the absence of any definite abnormality of intellect or temperament) there is every hope for a speedy cure.

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[1] This is seen very clearly in the delinquencies of the only child, or of one who, for a long period, has remained an only child.

[2] I use the masculine pronoun; but the process is even more acute in adolescent girls.

[3] Most of my cases under this heading have been among training college students. Among children of the elementary school class, the nearest approach to conflicts of this species is the not uncommon perplexity that the child from a poorer home experiences in reconciling the two different ethical standards with which he is so constantly confronted,—the more refined code of the school, for example, and the rougher code of the home or street; or, later on, the stricter code of his home with the looser code of his friends and associates in work and recreation. In such a case I have sometimes known an intelligent and reflecting youth, after a prolonged and painful pondering, throw up in distraction the whole bewildering issue; announce himself as an atheist or an anarchist; and act in flagrant accordance with his new-found philosophy.

The upshot, then, of the whole discussion points always to the need for an intensive study of each individual offender. There is, for juvenile delinquency, no one cause and no one cure. Merely to prove that a given child has committed a given offence: and then to warn him, to fine him, to flog him, or to send him to an industrial school, is an acknowledgment of failure, not a measure of reform. A wider and more scientific employment of the system of probation would largely meet the need.[2] Where, as a last resort, a child must, after all be segregated in an industrial school or a reformatory, it is eminently unwise to herd together normal and defective, stable and unstable, corrupt and uncorrupt, occasional offenders and hardened offenders, all in one and the same institution. Cases should be more finely classified; institutions should be more finely specialised for the reception of particular types; and, within these institutions, treatment should be undertaken as well as punishment bestowed.

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[1] This hardly seems in agreement with the findings of Healy, or of the more definitely psychoanalytic writers. I have argued briefly in support of the present view in an early note on "Moral Conflict and Juvenile Crime," *Child Study*, 1919, II., pp. 22-25.

[2] A recent review of my cases shows that, where delinquent tendencies are detected by parent or teacher at an early age, simple psychological measures are sufficient, in nearly 40 per cent. of the cases, to effect a cure, and, in another 25 per cent., to induce a progressive improvement. The unsatisfactory remnant appear to be chiefly instances where the treatment recommended could not be carried out, or where some deep congenital disturbance or some hopeless home condition lurked in the background.

BEHAVIORISM AND PSYCHOANALYSIS.

By Theodore Schroeder.

PROF. John B. Watson has often made slurring references to psychoanalysis, and lately has taken to lecturing in disparagement of it. In reviewing Watson's books, the psychoanalysts have hitherto been content to pronounce him "inadequate," or to suggest that he was borrowing the psychologic label for misnaming valuable physiological research. As psychoanalytic theory develops towards the expression of its philosophic implications, it becomes increasingly desirable that the psychoanalytic approach, to its peculiar psychologic data, be defined with growing exactness, and that its distinguishing philosophic and other theoretic implications be formulated with increasing precision and frankness. As a contribution to that end, it is here proposed to contrast the behaviorist's with the psychoanalyst's approach; to point out some of the differences in their philosophic implications, and to hint some explanations of these differing mental attitudes. For this purpose, I will contrast the psychoanalyst's concept of a different task, its different data, and the implications of a more exact and more elaborate definition of the psychoanalytic approach. True to the psychoanalytic method, the effort will be to explain rather than to controvert. All quotations on behaviorism are of Watson's authorship. The italics will be mine.

BEHAVIORISM AND MATERIALISM.

First, I wish to show that Watsonian behaviorism manifests and implies the same quality of compulsion which, in the field of philosophy, impels to the acceptance of a rigid and absolute materialist monism. Thus Watson says, the "Behaviorist *feels no need for images* either for memory or for thought." This is so because for Watson everything human must be seen *exclusively* as a bio-chemical process. Accordingly he says: "The process of intelligence is something that goes on, *not in the mind*, but in things," and therefore can be studied only through the peripheral sense organs. In harmony with this, Watson tells us that "psychology can be studied with accuracy only by observing *what other people do.*" Herein, some psychoanalysts will see the effect of an extreme aversion to introspection as a whole. The more enlightened introspective, psychogenetic studies of the psychoanalysts, are as much taboo as the older introspective surface observations of the academic psychologists, and their superficial descriptions.

With such a dominant phobia, Watson refuses to discuss such concepts as consciousness, sensation, perception, attention, will, image, etc., and says: " I frankly do not know what they mean." For the behaviorist, thinking, memory, etc., must then be defined in terms of muscle tonus, conditioned reflexes, bio-chemical activities, etc. Thus Watson attempts to co-ordinate a wide range of the matter-aspect of that part of the ultimate, unknowable, cosmic stuff which constitutes tbe human animal. Although he wholly ignores all those force-aspects of the ultimate cosmic stuff, which are evolved to that refined and subtle manifestation which was before Watson deemed the special subject of theologic as well as psychologic speculation, he yet claims that he " views the organism as a whole." For a Watsonian behaviorist, there seems to be no such thing as affect-value, or the purer psychologic state, in the sense of a development from the cruder force-aspect of the ultimate unknowable cosmic stuff. It is just this psychologic development of the force-aspect of nature, upon which psychoanalysts place their emphasis. We have no aversion to recognizing the equal importance of such researches as Watson is making on the material aspects and the grosser force-aspects of the unknowable cosmic stuff, organized into a human animal. We only say that these are not within the special field set apart for psychoanalytic research, and that this latter aspect of human conduct is just as important as the other, if our desire is for the most complete understanding of human personality. For some more limited purposes, the behaviorist's approach may be the more useful. For still other limited purposes, the psychoanalytic approach is claimed to be the more useful. With so much toward pointing out the obvious conflict of viewpoint, we will proceed to exhibit some less obvious differences.

DEFINITION OF PSYCHOLOGY.

Watson tells us that: " Psychology is that division of natural science which takes human activity and conduct as its subject matter." So say psychoanalysts also. However, when we read into the last quoted words the philosophic implications, and the compulsions of Watson's psyche, as these are partly revealed in the quotations already made, then we see at once that the words of the foregoing definition imply, in Watson's psyche, a very different meaning and different affect-values, than that which the same words symbolize, when the same definition of psychology is used by psychoanalysts. For Watson, words seem to symbolize only a state of things objective to the psyche. For psychoanalysts they symbolize primarily images of such objectives, and the affect-values which have become attached to these. For Watson, these images and affects are as nothing. Already the conflict of viewpoint emerges from a use of identity of definition.

All this double symbolism of words must be kept in mind if one wishes to understand Watson as he is, and the different sense in which he uses words, from that in which psychoanalysts may use the same words. Sometimes, indeed, Watson seems to forget himself, and appears to talk about things that we thought he had almost denied the existence of. At moments one may even get the impression that Watson is a psychoanalyst. He writes of fear, rage, love, functions, blocking, of emotional patterns, emotional tones, dreams as indicators of personality, evenness of emotional levels, free association method, etc., etc.

If you were to confront him with such phraseology, and suggested that this seemed to involve a contradiction of some such passages as I have already quoted, he would doubtless demur. Probably an explanation would come forth which implied that he was only seeing, or rather searching for, some materialistic manifestation (aspect I would call it) of the things which others erroneously considered wholly, or in part, to consist of—or as determined by—some purer psychologic states. So far, then, Watson is at least a verbally consistent absolutist, materialist monist. I say "absolutist" advisedly, because he appears expressly to repudiate every aspect of the doctrine of relativity. The logical implication of his statement would seem to be that there are no relative approaches to truth. Seemingly we either know it or we don't. We have perfect truth or no truth. This is so because "the process of intelligence is something that goes on *not in the mind* but in things."

In passing, it may be remarked that some psychoanalysts see this psychologic tendency toward any absolutism, in an evolutionary setting of desires and of mental processes. Thus classified, is is deemed as characteristic of an infantile quality of our human urge towards omnipotence, even when defended by a special plea and with the use of highly specialized and extensive cultural data. Also, the psychoanalyst sees our mental images as presenting various degrees of perfection in their approach to being exact transcripts of the objective realities.

That is to say: In varying degrees we achieve only relative approaches to truth. Let us look a little further into the psychology of this behaviorist for the purpose of better understanding our difference of view-point.

FEAR-DETERMINED CHOICES OF CONDUCT.

At times, Watson talks of "fear" as if even for him the word symbolized a pure affect; as if even he understood it, as presenting aspects that are antecedent to, and something different from, mere observed muscular movement and chemical change. He also shows the working of such a force in himself. For example: he confesses that he is deterred from discussing certain emotions, instincts, habits. The explanatory cause "is that the discussion of the total activity involves a frankness in dealing with human (sex) nature which the American school public is not yet educated to entertain."

The psychoanalyst recognizes, seeks to explain, and to help the public outgrow its emotional conflict over sex, and its consequent hostility to the enlarging of our understanding concerning the sexual nature. Watson evades the conflict, for he does nothing to minimize the sexphobia in others which he admits makes him fearful. Perhaps he can explain this greater predisposition to fear, in terms of his own bio-chemical action. The pschyoanalyst sees it more clearly in another aspect, as an extravagant affect, which can be understood and modified through the psychoanalytic approach, as well, and sometimes better, than through the endocrine glands, diet, etc. In this choice of Watson, to fight a few psychoanalysts rather than to fight the vastly more popular sex-superstition which also confessedly oppresses him, some will see an important factor of Watson's personality. From the psychoanalytic point of view this can be partly, and at least equally well explained in terms of certain peculiarly personal affect-values, which Watson has been compelled to attach to matters of sex. Furthermore, psychoanalysts believe that our understanding of the sources and the development of this particular fear-compulsion is better understood if we study also the purer psychologic aspect of Mr. Watson's past, as well as his bio-chemical behavior, conditioned reflexes, etc., etc.

Furthermore, the psychoanalysts believe that such compulsions are always at work, and enter into the determination (often sub-consciously) of all our choices. Let me exhibit one choice of Mr. Watson's that concerns only a single word. This will show how differently the behaviorist and the psychoanalyst approach the problem of human choice, and of the compulsion behind the choice.

In one place, Watson writes: "As a science, psychology puts before *herself* the task of unravelling," etc. By thus writing of "psychology" as a female, Watson made a choice which I venture to guess was not determined by conscious or discovered bio-chemical processes of which he was aware at that time, and which he can now explain as he then understood them. I am bound to admit theoretically, that there should exist a bio-chemical aspect to the organic determinants of this choice of words. The psychoanalyst would suspect that, for Dr. Watson, femaleness had a great affect-value, so great, in fact, that it compelled him not only to personalize, but also to feminize the abstraction: psychology as a science. It is interesting that he ascribes to his feminized "psychology" a volition, the meaning of which (will) he professed not to know the meaning of, as a fact of consciousness.

Others, working under a different set of affect-values, would have constructed a different sentence to express the same thought. Thus: Psychologists put before *themselves;* or: Psychology puts before *itself.* A woman psychologist, more obsessed by maleness than by the rhetorical habit of male predecessors, might have written, "As a science, psychology puts before *himself* the task of unravelling," etc. From the psychoanalytic approach each of these choices but reveals the present dominating affect-value, which was probably acquired through the past sexual life of the person who makes the choice.

Now then the psychoanalyst, seeking to understand the Watson personality in terms of a dominant compulsion, and of the psycho-genetics thereof, can see a quite clear casual unity between the above choice of femaleness and several other of Watson's choices. First, we have the relative obsession with femaleness which compelled him to feminize psychology. Second: His feminized psychology has a will which he does not know the meaning of. Third: A fearful attitude towards the popular sex-phobias. Fourth: A corresponding aversion to the psychoanalysts' claim that they can trace such fearful affects, back to their causes in the individual's sexual past, and to the emotional tones (of shame and fear) then acquired. Fifth: The psychoanalyst may also see in such past the genesis and development of an impulse to exclude some painful experience from consciousness, and a resultant declaration by Watson that he does not know what others mean by consciousness. Sixth: From a deductive application, of psychoanalytically revealed mechanisms, one can easily get a working hypothesis to explain Watson's necessity for defending an absolute materialist monist philosophy, and for repudiating a concept of consciousness, sensation, perception, will, image, etc. These reflections, of course, present only an easy and for psychoanalysts a probable psycho-genetic explanation of the implications of Watson's formulation of his concepts of psychology. If he actually submitted himself to thorough psycholanalytic procedure, its technique properly applied might reveal to him a different, or at least a concretized additional psycho-genetic factors, as co-determinants of his behavioristic predispositions.

PSYCHOLOGY OF PHILOSOPHERS.

Next, let us consider the philosophic implications of the Watsonian psychology. I have suggested elsewhere the probable mechanism by which Mrs. Eddy was impelled to the denial of matter. An overpowering fear and shame of her own erotic nature and of its indulgence, led from the emotional need for a denial of her own physical nature to the doctrine of "the allness of mind and the nothingness of matter,"[1] and absolute idealist monism.

Prof. Watson appears to have been compelled to an equally extreme manifestation in an opposite direction. If some facts of consciousness give pain, one phantasmal escape could be achieved by denying consciousness altogether, just as Mrs. Eddy accomplished the same result by denying the existence of matter and pain. As the psychoanalysts see such modes of escape, it is not impossible that Watson's denial of consciousness has at the back of it some such agony as made Mrs. Eddy deny matter. Or again: It may be the result of a pure negativism, brought into being through his childhood aversion to the authority of a religious bringing up, with too much emphasis upon "spiritual" things. Of course, only a painstaking psychoanalysis of Watson would reveal the truth. I refer to these possibilities only as a means of suggesting the psychoanalytic view-point, and its difference from the behaviorists.

Anyway, it is by the likeness of the underlying conflicting compulsions, that psychoanalysts can often account for the predispositions which make for the absolutist kind of materialist monists and of idealist monists. Now I wish to suggest how philosophers are further explainable, from the view-point of a complete determinism, in which our theories and thoughts are considered as tools of the personality, just as are our hands and hearts. If the internal conflict is intense enough, the tendency always is to try to deny *in toto* some generalized manifestation or association of the painful factor of experience. Where the internal conflict is rather mild, the urge to identify oneself with absolutes is less potent. Accordingly, we find the tendency is to dualism or pluralism. Thus come philosophic theories of interactionism, parallelism, and James' pragmatism, and pluralism. With only a little more of intensity the parallelism sometimes becomes a bit lop-sided, and more emphasis is placed upon one aspect than upon the other. Such victims of the subjective conflict tend to intellectualize, and more exhaustively to rationalize one or the other aspects of these conflicting tendencies. Then we get from them debates, as to whether mind dominates over matter or matter over mind. How did the mind get a body? etc. Here they recognize with unequal prominence both aspects of the ultimate unknowable cosmic stuff, but seem not to make an efficient co-ordination. At best, we here get theories of a more equalized interactionism, which, however, assume that mind and matter are distinguishable and separable entities. These must be considered as separate entities because the underlying conflicts, within the personality, will not permit of the more complete integration.

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[1] Christian Science and Sex, N.Y. Medical Journal. 112 (No. 2192); 851-852; Nov. 27, 1920.

In the approximate absence of emotional conflicts, which means a more unified personality, I should expect a tendency to see matter and force, in their evolution to brain and psyche, to be viewed as but different aspects of the same organic unity. Then the argument will run thus. Matter and force (brain and psyche) cannot be known in themselves, nor have ever been known (in the living state) to have a separate existence. Death is merely a condition in which the psychic aspect is in a state of disintegration, and regression to the bio-chemical level of energic manifestation. So we come to the conclusion that force and matter (brain and psyche) are but different aspects of the ultimate and unknowable cosmic stuff. So again our psychologic past pre-disposes some of us toward the double-aspect hypothesis held by some of our philosophers.

We have now had pointed out, somewhat in detail, the difference in the behaviorist's and psychoanalyst's approach to the human organism, and some of the difference in their philosophic implications. Some suggestions have been made as to how these differences can be sometimes accounted for, by the psychoanalyst's hypothesis. It seems to me best, that now I should attempt some further definition of the psychoanalytic approach in more general terms and in broader outline, with hints of a longer perspective.

THE PHYSICIST'S AND PSYCHOANALYST'S METHOD IN PSYCHOLOGY.

Although psychoanalysis is an evolution from the physicist's laboratory method through the medical clinic, nevertheless it so thoroughly reverses the physicist's emphasis and view-point, that the physicist's (and the biologist's) habitual attitude are often a real hindrance to an understanding of the psychoanalytic approach. Some of us believe that we will never adequately understand the specific character of a human response to stimuli, until we can lay aside this well-developed habit of the biologist and of the physicist, and can search within the subjective and into the psychologic aspect of its past, for contributory determinants, of any response to stimuli. The psychoanalysts insist that there are subjective contributions to the determinants of thought and conduct which are just as important as the objective stimuli. From the standpoint of understanding, the personality, the psycho-genetics of the subjective conditions or pre-dispositions, are even more important. These subjective determinants come largely from out of the personal experiences and their impress upon the psychologic past, and are operating in the present in proportion to relative potencies of the previously acquired integration of conceptual associations with affect-values. The study of the behavior of the psychologic aspect of human energy *as a process*—in the course of change, and as a continuing stream of tendencies, whose changing values and changing associates are to be traced through a succession of past experiences to their present influence—is the task of psychoanalysts. Since this dynamic process of the psyche cannot yet be made a matter of observation by means of our peripheral sense organs, we will observe it, if at all, only in so far as we supplement the physicist's mental habit with a highly cultivated capacity for instrospection. In some persons the emotional necessity for defensive, objectivization of " moral " values, so fixes the physicist's mental habits as to preclude many from achieving an understanding of the psychoanalytic approach, and from an acceptance of its deterministic premise. The re-conditioning of this factor of the physicist's defensive mechanism, and its partial explanation in terms of psycho-genetic determinants, is also a problem for psychoanalysts.

In consequence of this physicist's pre-disposition among laboratory psychologists, the tendency has been to ignore the fact that every psyche has characteristic valuations and compulsions, which are peculiarly its own distinguishing mark. A case has been reported to me, where a youth with considerable emotional disturbance over his mother, passed intelligence tests with 20 per cent. higher rating when the tests were applied by a man. The old common assumption that the related objective and physical determinants (even the objectives of our phantasies) were an *adequate and complete* explanation of human behavior, is being discredited by psychoanalysts. Until recently it has been thought sufficient, for an understanding of psychology, to read descriptions of the outward and material manifestations of psychic energy (now made to include conditioned reflexes, etc., and formerly emphasizing the old psychiatric symptomology). Psychoanalysts now insist on studying also the behavior of the purer energic-aspect of the psyche, that is, as the highly differentiated subtle and complex force-aspect of the ultimate unknowable cosmic stuff, and with emphasis on the psychogenetic determinants.

Modern laboratory psychologists, and neuro-biologists, almost limit their efforts to promote greater exactness in the standardized descriptions and classifications of humans, according to observable objective standards and relations, and according to the objectivizations of psychic energy. That is to say, the psychologists of the laboratory and the neuro-biologists are working under the physicist's pre-dispositions, and tend to emphasize the matter-aspect and the grosser force-aspects of the human portion of the unknowable cosmic stuff, in relation to the present objective and physical part of the determinants of behavior. At best they only describe the behavior, or processes, of psychic energy, as viewed from without, by an onlooker, who thinks of himself as wholly disssociated. Neither do they consider the psycho-genesis and growth of particular emotional valuations, or acquired psychologic habits, as present subjective determinants that were developed within, from out of the past psychologic experience with objectives. With psychologists, who are uninfluenced by Freudianism, the emphasis still tends to be on the present, or on the physical manifestation and relations of organic behavior, rather than upon the study of the temporal continuity in the energic transformations of one's own psyche. That is to say: Before Freud we practically never considered the behavior of the psyche in its temporal relations and aspects, nor in its evolutionary setting, of desires and of mental processes; nor in its genetic relations to past emotional experiences and determinants; nor as a continuous flow of psychic energy, undergoing changes of emotional valuation and of associations, which changes are going on according to laws of its own, in which its psychologic past is equally involved with the present stimulus from without, as a determinant of present pre-dispositions, valuations, thought and conduct. Such studies cannot be made by the predominant use of observation through peripheral sense organs, nor under the methods which are dictated by a physicist's mental habits.

From the psychoanalyst's view-point, we will assume, as a working hypothesis, that there exists, in addition to objective stimuli and conscious motive, many urges effective as contributory determinants, and partly working from below the surface of consciousness, and effective as part determinants of each present conscious choice. Now our understanding of human nature is measured in part by the relative degrees to which we have become conscious of psychic processes and psychic relations, such as are mostly functioning subconsciously in others; and the degree to which we have become conscious of our psycho-evolutionary status, and of the present potency of the determinants coming from our psychologic past. In this more intimate aspect, psychology implies the scientific study of the psychologic aspect of the processes of the force-aspect of nature, evolved to the subtle complexities of psychic energy, and developing as changeable subjective contributions to the determinants of conduct and of thought, automatically serving the needs of the automatic apparatus. For psychoanalysts, these subjective determinants must always be studied in their genetic and evolutionary relations, as a process which is assumed to bring the experiences of the entire psychologic past (the racial experience by heredity, the personal experience as acquired characteristics) to bear, as part determinant of each present reaction. By our increase of understanding, as to the determinants of our psychic activity, new and more conscious co-ordinations can be made, such as conduce to an increasingly conscious and progressively more perfect and more complete adjustment to natural law, especially in the psycho-social realm. This added understanding, if adequately integrated with the emotional life, may now become a new determining factor, for a more consciously directed and revised co-ordination of each future item of experience. Each new co-ordination of antecedent feeling-values with new experience, upon becoming integrated with such a larger understanding of psychic processes, is made a new and different determinant of future conduct. Herewith we may more consciously re-condition the emotional valuations as well as the conscious motives and mental processes. These new integrations give new characteristics to the personality, and the resultant conduct may thereby come to function on a maturer psychologic level, to the end of insuring more comfortable and more equitable social adjustments, and finally a more equalized acceleration of individual and social evolutionary processes. It is in the psychoanalyst's possession and use, of such larger understanding, that psychoanalytic procedure, when it is such, differs from mere suggestion, and so accomplishes psychologic recoveries. This will be elaborated in another essay. It is in this capacity for consciously maturing the motives and mental processes that we have the basis of some hope for the premeditated, reconstruction of human nature and society in general. This will come about through new conceptions of the aims and the methods of education.

The psychoanalysts, almost alone, are thinking of psychologic behavior in these purer psychologic aspects, as something always related to, and partly determined by, the present influence of a traceable psychologic past. In other words, the psychoanalysts are emphasizing those temporal relations in psychologic changes, which are the essence of psycho-genetics, and which the behaviorist persistently ignores. In their literature, one group of "psychologists" who are without the psycho-genetic approach, describe psychics in terms of the objective stimuli, and of physical manifestations of the response, as seen with a physicist's predisposition, rather than in terms of dynamic processes, which are always in the fluid condition of establishing new and different valuations and relationships. Hence, like the older psychiatrists, the laboratory psychologists tend to make psychological classifications of individuals, according to the obvious physical symptoms. Academic psychologists incline to concentrate on the conscious motive or the immediate objective factors among many complex determinants. Instead of this, the psychoanalysts make a classification by the psychologic aspects of the behavior of the energic processes, seen in an evolutionary setting. In short, the laboratory psychologists use the physicist's, the biologist's and the physiologist's approach to psychologic data, as distinguished from the psychoanalyst's approach, to data that are sometimes quite different.

So also there are "psychoanalysts" who merely use a psychoanalytic jargon for the superficial description (or mere re-labelling) of psychologic manifestations. Such "psychoanalysts" are handicapped by not yet having outgrown the physicist's mental attitude. They reason logically, but do not see psychologically. Just now there is a great flood of this pseudo-psychoanalytic literature, which gives very little real illumination as to psycho-genetic and psycho-evolutionary *processes*.

FOREIGN INTELLIGENCE.

[*We are glad to be able to announce that we have made arrangements whereby regular instalments of notes from foreign sources will be contributed by competent authorities abroad. These will include comments on the progress of psychology in the countries concerned, together with abstracts of such periodicals and books of importance as are not readily accessible to English readers. The latter will be found in our "Survey of Current Literature." We publish a further instalment of General Foreign Intelligence below, and propose, in the near future, to extend our arrangements to cover all centres of psychological importance.*]

UNITED STATES.

Although it is too late in the year to report here the last meeting of the American Psychological Association, which took place at Princeton during the last week in December, under the chairmanship of Prof. Margaret F. Washburn, of Vassar College, it will probably be in place to state that it was the best-attended gathering of psychologists on record. The interests of the members of the Association have become so diversified, that two sections, each with a different programme, were required for most of the sessions. These sections included general psychology, clinical psychology, experimental psychology, mental measurement, abnormal psychology, industrial and educational psychology. Among the features of this meeting was a symposium on Psychology in its Social Relations, participated in by Profs. Cabot, McFie, Campbell, McDougall, and Doctors Paton, Franz, and F. W. Wells.

A large part of the business proceedings was devoted to the discussion of the report on the licensing of prospective consulting psychologists by the American Psychological Association.

The second meeting of the New England psychologists was held on March 18 at Wellesley College, under the chairmanship of Prof. Mary Calkins. The following topics were discussed:—

1.—Laboratory Policy. Concentration of a given laboratory on a selected group of problems; "laboratory atmosphere"; the assumed theoretical doctrines that permeate research; "the laboratory creed"; exchange of graduate students under these conditions.

2.—Influence of Mental Tests on Systematic Psychology. Is there to be a transformation of laboratory training or a partition of interest; laboratory experiments or mental tests, or both? Is the younger generation being adequately trained in scientific observation in psychology?

3.—The Proportion of Theory to Fact in Psychology. How much of our "scientific" psychology is still speculative? What chapters are mainly experimental? Which ones are largely theoretical or borrowed from other disciplines?

The meeting of the Titchener experimentalists was held this year on April 7, 8, and 9, at Wesleyan College, Prof. Raymond Dodge acting as host. The communication and discussion of the various investigations conducted in a dozen or more of the leading Eastern laboratories constituted the programme of this gathering.

New Publications.

The *Journal of Personnel Research* is the name of a new periodical to be added to the score of psychological periodicals published in this country. Prof. C. S. Yoakum, of the Carnegie Institute of Technology, is to be managing editor.

Dr. J. S. Moore's *Foundations of Psychology* is probably the most important psychological work that has appeared in the last few months.

Professor Dewey's *Human Nature and Conduct*, though intended as an introduction to social psychology, covers more nearly the subject matter of ethics.

Professor Knight Dunlap, of John Hopkins University, is the initiator of a project to translate into English a series of psychological classics. The first volume to appear under his editorship is Lange's monograph on the Emotions, translated by Miss Haupt.

Psychological Corporation.—The Psychological Corporation, which was reported in an earlier number of *Psyche* as a possibility, is now an accomplished fact. With Dr. McKeen Cattell as its president and a number of eminent American psychologists and academic executives its directors, this organisation will be in a position to undertake psychological research on a large scale, and to divert the industrial and commercial investigations that have been attempted by inexperienced hands into professional channels.

Harvard Laboratory.—Prof. E. G. Boring, of Clark University, has been appointed co-director of the Harvard

Psychological Laboratory. He will be assisted by Dr. Pratt, also of Clark. Dr. Murphy, of Columbia University, has accepted a research fellowship in psychical research at Havard University.

Investigations at the Clark University Laboratory.—The following problems are being investigated at Clark University under the directorship of Prof. E. G. Boring, who has recently been appointed to the co-directorship of the Harvard Psychological Laboratory:—

1. Dr. Pratt. A Study of Musical Interval in Its Relation to Sense-distance; Phenomenal, Logical and Psychophysical.
2. Dr. Halverson. A Study of the Dependence of the Volume of Binaural Tones as Dependent upon Phase-difference of the Tones. Bears on the Theory of Central Integration in Binaural Localization.
3. Miss Bates. Dependence of the Miller-Lyer Illusion upon Attitude, and incidentally the Nature of the Illusory Movement when the Special Change is due to the Nebenreiz of the Illusion.
4. Dr. L. D. Boring. Priory Entry in the Case of Noise and Pressure; a Psycho-physical Study.
5. Mr. Macdonald. The Qualitative Olfactory Continuum; an Experimental Verification and Critique of Henning's Smell Prism and the Dependence of Quality upon the Nature of the Molecule itself.
6. Miss Moller. The Nature of Variability Subsumed under the Psychometric Function, in the Case of the Upper Limit of Hearing Determined by Steel Cylinders.
7. Mr. Bixby. The Dependence of Red-green Colour Mixture upon Distance and Visual Angle.

With the retirement of Stanley Hall from the presidency of Clark University, the department of psychology has been steadily losing ground at the University.

Vassar College Laboratory.—Among the more important investigations carried on at the Vassar College Psychological Laboratory, under the direction of Miss Washburn, may be mentioned (1) The Factors Entering Into the Appreciation of Musical Compositions, which was awarded the $1,000 prize given by Thomas Edison in connection with the Edison Phonograph Company; (2) A Study of the Students Doing Creditable Work in College although Ranking very Low in Intelligence Tests;

(3) A Classification of the Student Body for College Activities by Personality Traits; (4) A Study of the Scientific Students as Compared with the Literary Students in College.

In addition to these, Miss M. C. Gould has been carrying on extensive research in personnel work.

ITALY.

The great interest in religious studies, which is now manifesting itself in Italy, has its roots deep in the general crisis of consciousness, which began in European thought after surmounting the materialistic and positivistic doctrines. We are at present very far from the time (as M. Puglisi rightly observes), when to the lectures of the 26 professors of theology in the Italian Universities there came only four students, when Tommaseo, Mazzini, Rosmini and Manzoni were unheeded, and Bonatelli remained a solitary, because the religious problem had been reduced by the politicians to a mere question of political supremacy.

One of the most interesting currents of religious thought was surely the so-called modernism, which was defined by the Italian modernists as a living exigence of concreteness and actuality. Between 1907 and 1910 catholic modernism began to weaken, and has at present a secondary importance. In the meantime new groups of students of religious problems have been founded in different centres (the Philosophical Libraries of Florence, Rome and Palermo) and in 1912 began the publication of an excellent review called *Bilychnis*, which publishes papers on various trends of religious thought. It is devoted to free inquiry into religious phenomena, and to the examination of their various forms, re-uniting with Christianity all the religions and cults which humanity has adopted for its consolation. Amongst the regular contributors to the review are A. Chiapelli, R. Murri, M. Puglisi, S. Minocchi, P. Orano, A. Tilgher, A. Renda, and D. Provenzal. In ten years it has published a great many articles dealing with all religions and with the most interesting questions of actuality. In the purely catholic field there is also a great revival of Thomistic and religio-historical studies, which are published in that very good review, *Rivista di Filosofia Neoscolastica*. Very significant and influential also are the conversions to Catholicism of many important personalities, as of the poets A. Graf and G. Borsi, and recently of G. Papini the whimsical Florentine philosopher, one of the first exponents of pragmatism in Italy, who has had great success with his *History of Christ* (1921), a semi-philosophical, semi-poetical apology for

Christianity. The eminent psychologist, S. De Sanctis, has made protracted enquiries into religious conversion, and has published in *Bilychnis* (1921, No. 2) a brief abstract of his studies. He is opposed to the purely passive interpretation of these phenomena maintained by positivistic psychologists such as Lenba, and by theologians jealous of divine grace such as P. Mainage, and he disagrees with the opinion of James and Morton Prince that conversion consists in a sudden irruption of subconscious experiences contrary to the doctrine of the omnipotent "subliminal." According to De Sanctis, religious conversation is a complex and gradual mental process involving the mutation of the whole personality. It is prepared by individual conditions of remote formation, analogous to the "premutations" of biology, which, however, do not remain unconscious at all to him who experiences them. It consists in a changing of ideo-affective-motor complexes of the individual, it is only a new systemation of the affective energy, or, better, of the individual *pathos*, which manifests itself in the moral field as a process of elevation or "sublimation" of pride, of love, and in general of the whole emotional life. It would be an error, he thinks, to reduce all this process to a mere automatism. History and experience teach that true conversion consists in the consciousness of the subject, even if not continued, of his own mutation and of its end.

The Fourth National Congress of Philosophy, held at Rome in September, 1920, gave a new proof of the general interest in religious problems in Italy. The great fact of religiousness as an irreducible attitude of the mind and as a formidable historical force, was more or less openly the subject-matter of all the discussions. The eminent philosopher Varisco (the author of *The Supreme Problems* and *Know Thyself*) began by proclaiming in his inaugural discourse (*Culture and Philosophy*) that "religions were and to some extent remain the chief factors of the conscious human life, and much work is necessary in order to understand their foundation, significance, and real efficiency." Afterwards E. Buonainti delivered his address on the relations between philosophy and religion in contemporary culture, and obtained for his thesis the hearty and spontaneous consent of almost all the assembly. The speaker affirmed with eloquent energy the autonomy of religious experience, and denied that it could be reduced or subordinated to any other form of mental life. But the prevailing tendencies of the Congress, and, through it, we may say of the Italian philosophical culture in general, were clearly manifested when, after the communication of G. Gentile about art and religion, in which he expounded the elements constituting, according to him, the facts of æsthetics and religion, their opposition and their dialectical reconciliability in the act of thought, a series of speakers as Aliotta, Valli, Calò, Varisco, and Buonainti, rose to show how such a conception, in attempting to petrify the richness and complexity of mental facts in an empty circle of conventional formulas, deforms and mutilates reality.

In the same year, 1920, began the publication of an excellent review, *Studi Filosofici e Religiosi*, edited by A. Bonucci, which makes considerable contributions to the study of religious problems. Many important papers by Bonucci, Buonainti and Varisco have been published, notably the interesting article by Bonucci on *Idealism and Realism in the Interpretation of Religious Experience* (1921, No. 2), in which are reflected the two fundamental tendencies of the interpretation of religious fact in Italy. On one hand there is a noteworthy interpretation of religious experience in idealistic terms in the *Discourses of Religion* by G. Gentile (1920), who, continuing the Hegelian intellectualistic conception of religious life, excludes from the essence of religion the consciousness of the relation of dependence between man and God, and considers religion as a dissolving of the subject in the object. On the other hand, students of various philosophical schools are strongly opposed to such a conception, and all accentuate the transcendentalistic thesis and the irreducibility of the religious phenomenon to terms of purely intellectual processes. In his article, Bonucci rightly observes that the consideration of the world and of all the moments of individual life as *étapes* of a dialectical process, leads fatally to the misunderstanding of all other forms of mental life, which are different from the intellectual. The essential moment of religious experience, according to Bonucci, is the aspiration to God, an aspiration united with the sense of dependence of our whole life, both mental and corporeal. This fundamental religious relation between man and God is necessarily present to religious consciousness; even in the supreme moments of mystical union, the consciousness of the extremity of the relation between man and God is never excluded from the consciousness. This relation of dependence is an exaltation, not an annulment of the subject; religious emotion was an exaltation of the personality for all the great religious geniuses.

In 1921 there was constituted in Florence the "Association for Moral and Religious Progress," which has for its object the awakening of the religious spirit and the promotion, without pre-occupations about philosophical schools and various confessions, of critical and historical studies of religion and ethics. The Association soon became a very important centre of religious studies, and has also raised a great interest abroad, especially in Germany and Holland. During the first two years, the activity of the Association was manifested in a long series of conferences and discussions held by such savants as Chiapelli, Ferrero, Buonainti, Lamanna, Pavolini, Assagioli, Puglisi, and others. Very interesting also is the review *Il Progresso Religioso*, edited by the Association, which gives abstracts of the conferences and a wide survey of the religious movement in Italy. Of special interest, from the point of view of psychological analysis and the genesis of religious consciousness, are three short articles by E. P. Lamanna (the author of *Religion in the Life of the Spirit* which contains the best exposition of contemporary doctrines of religious philosophy). These are *Religiosity*, *The Supreme Question*, and *The Genesis of the Idea of God* (*Il Progresso Religioso*, 1921, Nos. 3-8). Religious experience is defined by Lamanna as an aspiration of the human mind to a sphere of reality which transcends all his actual experience, and is at the same time the immanent reason of his being and becoming; aspiration means *affirmation* of the existence of such a reality and at the same time an effort of putting oneself in relation with it. Religiosity is *idea* and *vital relation;* it is an idea of the Absolute and a sentiment of dependence and freedom, of humiliation and exaltation. The immanent principle of the evolution of religion can be indicated only by an enquiry which aims at interpreting the data of history in the light of psychological knowledge of the human mind. Man apprehends himself as a centre of energy capable of behaving in three different senses: knowing, contemplative, and practical; in these three directions reason indicates to the human activity three specific ends: truth, beauty and goodness, of which the common sign is the exigence of universality. In every mental act there are three elements: consciousness of self, consciousness of rational principles, and consciousness of natural elements. In every mental act there is a revelation of something *absolute* beside something relative, and this revelation is made to a self-consiousness. Man has the consciousness of the Absolute (rationality) as manifesting itself in the explication of his mental activity in the direction of Truth, Beauty and Goodness, and he has the aspiration to extend the rationality to all the Universe—aspiration which is not subjective and capricious, but proceeds from the nature of rationality, which is either all or nothing; and finally, there is in the present reality something which seems to refute this aspiration. And thus all the data of the religious problem are put. In such a position, the mental subject cannot but ask: What is the real foundation of what is ideal in me, what are the objective conditions to explain the validity of the ideal laws of my rationality, and to warrant their indefinite actuability in spite of the inadequacy of the empirical reality with them? To this question, which springs from the centre of our mental life, the religious consciousness answers with one single word: God.

In 1922, the review *Archivio Italiano di Psicologia*, edited by Kiesow and Gemelli, ceased publication in consequence of the removal of Gemelli, who intends being the editor of the *Bulletin* of the Catholic University of Milan.

SURVEY OF CURRENT LITERATURE

The Psychology of Medicine. By T. W. MITCHELL, M.D. (Methuen 6/-.)

Dr. Mitchell reads widely, thinks much and writes little, and the consequence is that he is one of the comparatively few writers from whom we should like to see an increased output.

The present work is intended as an introduction to pathological psychology for the benefit of all those who, whether as medical practitioners or otherwise, are interested in the application of psychological knowledge to therapeutic purposes. In this object it seems to us to succeed to admiration, for Dr. Mitchell, while fully appreciating the epoch-making work of Freud and his followers, is by no means dominated by their doctrines, and has nothing of the invertebrate subservience which characterises so many members of this school.

The book contains, so far as we can detect, nothing in the way of new and startlingly original doctrines, and in view of its purpose it is scarcely desirable that it should. But the author offers a careful, impartial and judicious account of the views and achievements of the leading schools of psycho-therapeutics, and no one who is interested in the subject can fail to profit by reading it.

It will undoubtedly do much to increase the reputation of Messrs. Methuen's collection of psychological works.

The Psychology of Society. By MORRIS GINSBERG. (Methuen, 5/-).

Social Psychology is rightly attracting a good deal of attention at the present time, but sensible books on the subject are comparatively rare. There are, of course, Professor McDougall's *Introduction to Social Psychology* and *Group Mind*, but the first is too general and the second perhaps a trifle too formidable to serve as a suitable introduction to the subject for the purposes of the general reader. Mr. Ginsberg is readable and, without saying anything new, is quite sound. His chief point of divergence from McDougall is his refusal to admit of a social consciousness over and above the individual consciousness which make up the community. He contends, in fact, that the wood is an entity independent of the trees which compose it. In this he seems, to the present writer, to have the best of the argument, although it is possible that a more rigorous definition of "consciousness" in terms of the phenomena whereby alone we infer its existence might reverse this view, while a similar criticism might be made *à propos* the possible implications of telepathy. But into these possibilities neither Mr. Ginsberg nor Dr. McDougall enters, and so far as the present state of the science goes, this book may be taken as a very adequate introduction to the general nature of the problems involved, and to the nature of the views at present held about them.

Married Love: Wise Parenthood: Radiant Motherhood. By MARIE STOPES, Ph.D. (Putnam, 6/- each.)

The present day need of enlightenment on the technique of sex and parenthood is so urgent, and the bulk of suffering and unhappiness carried by its deficiencies so enormous that we cannot but welcome any works on the subject which are tolerably accurate, and yet reasonably easy for the general public to assimilate. We believe further that intelligent birth-control is the only hope of betterment for an over-crowded and poverty-stricken world, and we feel, therefore, that the writer of these works has conferred no small benefit on humanity by their publication.

On the other hand we regret that she has found it necessary to mingle so large a proportion of "uplift" with the exposition of scientific facts, although we must admit that the nauseous sentimentality and incorrigible hypocrisy which characterises the dealings of most "right-minded" people with the problems of sex makes this almost inevitable in the work of any pioneer of the subject.

In the future when the present younger generation has brought about a sensible state of public opinion, someone will doubtless write much better books, but in the meantime a set of these works should be a part of the *trousseau* of all young persons of either sex.

Functional Nervous Disorders. By DONALD E. CORE. (John Wright and Sons, Ltd., 1922, 25/-.)

In this book Dr. D. E. Core makes a bold attempt on original lines to define and classify the functional nervous disorders with some degree of precision and method. It is refreshing to find an author striking out off the beaten track, and in so far this book provides us with an excellent mental stimulant. The author's views are not open to the objection which has been brought against many previous theories on the grounds of one-sidedness, and perhaps the most important and valuable feature in the book is the stress laid on deficient emotional control and environment subversive to its formation as factors in the production of functional nervous disorders. But as to what constitutes emotional control, as to how it is evolved and how it becomes deficient, we are kept very much in the dark.

The first part of the book is devoted to general considerations, which form the premises from which the deductions in later chapters are drawn, and although Dr. Core is to be congratulated on the ingenuity and originality which he has exercised in arriving at his conclusions, such a method is open to serious criticism. So that we find amongst these considerations many dogmatic assertions and assumptions unsupported by any real evidence and an intermingling of psychological with biological terms without definition, which makes the argument very difficult to follow. We are told that "psychical dissociation"—a term very freely used throughout as an explanation, but which is itself never satisfactorily explained—is a usual occurrence in animals, *e.g.*, "the development of an emotional tone in animals other than man is accompanied by dissociation in the psychology of the animal of the incident responsible." On one page we are told that the instincts are simply manifestations of the power possessed by all protoplasm of adapting itself to its surroundings, and three pages later the definition arrived at, as the result of an argument based on this preliminary statement, is that emotions are "reactions of adaptability to the surroundings." Apart from such criticisms, the considerations put forward are very suggestive, and the division of the emotions into centripetal and centrifugal (the emotion of tenderness and that of fear being taken as representative types respectively), which plays an important part later in his scheme of classification, leads to some very interesting and valuable conclusions, though it would seem that the differences claimed between the two types correspond in man, at any rate, not to the difference between emotions themselves, but rather to the difference between emotions and sentiments.

The largest part of the book is taken up with a good description of hysteria considered as a regressive condition, but the division of hysteria into primary, secondary, and tertiary is not very convincing. Certainly the most attractive part of the book is that dealing with the progressive or sympathetic functional nervous disorders, a part which has been very skilfully handled, and which could have been extended with advantage. Some useful practical hints are given in the chapters on treatment, but, though it is probably true that the value of psycho-analysis as a practical method of treatment has been over-estimated, to describe it as "a simple procedure amounting to little more than detailed case taking" indicates that the author has had only a superficial experience of this method. If Dr. Core had co-ordinated his theories and reduced them to terms with which we are familiar, so as to make comparison possible, he might have materially reduced that confusion and lack of agreement referred to in his preface, whereas, as it is, his book has left us only more bewildered than before. E. PRIDEAUX.

La Mentalite Primitive. By L. LEVY-BRUHL (Alcan, Paris, 1922).

This book is the continuation of "Les Fonctions Mentals dans le Société inferieures." In the earlier work the author showed how the law of mystical participation lies at the very basis of the primitive mind, and how the primitive are indifferent to the principle of contradiction, while in this book he studies chiefly how their conception of the principle of causality and consequences of their point of view. Psychologists and logicians will find a great number of very suggestive documents and a complete index of all the authors who have contributed to the study of the primitive mind. The conclusion of M. Lévy-Bruhl is that this mind is essentially *mystic*. All the "explanations" that we give of it, though they would be very probable for minds constituted like ours, are nearly always wrong (Cf. the remarkable criticism of Fraser's and Tylor's "explanation" in "Les Fonctions Mentals dans le Société inferieures"); right explanations can be obtained, but only through a sociological interpretation, for the method of Psychology can be of no use for the study of phenomena which are of a collective origin. The first cause of error has been the difficulty for the observers of understanding the language of primitive races: our language is, in fact, very different from theirs—we think by concepts while their thought is very concrete, and when we apply our language to their institutions and beliefs the translation is far from being faithful.

FOREIGN PERIODICALS.

Revue Philosophique (January—February, 1922). H. Delacroix: "La Foi et la raison." Dr. G. Dumas: "L'expression des emotions." Readers will find in this article a clear exposition of the theories of the modern physiologists on the expression of the emotions, and an interesting discussion of the James—Lange theory on the nature of emotion. The author concludes with a mechanistic and anti-finalist interpretation of the emotional reactions. W. M. Koslowski: "La Réforme de l'enseignement philosophique à l'Université." A very interesting and suggestive article. The author reproaches the Universities with teaching chiefly "dead" philosophy, the history of the philosophical systems of the past, i.e., the history of the problems that *were* vital problems. But this teaching is only good for creating graduates and doctors, not real philosophers. For the real philosopher is before all a living man, a man of his time, and his work is to struggle with the problems of his time. The example of Comte, Spencer, Taine, Renouvier, Lotze, Wundt, and James, who were not professional philosophers and did not attend a regular course of philosophy, shows the antagonism existing between the University teaching and the philosophy which is being created. This instance demonstrates also the truth of this Comtian idea that a more or less profound knowledge of the whole field of the special sciences is a necessary condition for a creative and efficient work in philosophy. Indeed the chief factor of the evolution of philosophy is the pressure of the new ideas in the various sciences or of the vital problems raised by the present time. The philosophical teaching must, therefore, divide itself into two parts: first, the philosophical sciences, chiefly formal; secondly, the special sciences furnishing the "materia" to elaborate. The extra-philosophical part would give all students a general scientific direction: Psychology, Natural Sciences, History of the Sciences, Sociology, History of the Civilizations. Then each student would study more thoroughly the special science corresponding to the philosophical domain in which he wishes to specialize. The philosophical part would include a systematic course of all the philosophical sciences, divided into three branches, namely, Logic, History of Philosophy, Ethics. The author thinks that four years would be enough for the whole course. Thus Philosophy would really be the general science it is intended to be, and that it was at the time of Aristotle. E. Goblot: "Analyse d'un rève. The author reverts to the hypothesis he had already launched in 1895, to the effect that dream is nothing but a construction elaborated on waking, and distinguishes the dream which is remembered from the dream which is not. It may happen that we sleep without waking all through the night, and that we have a dream in the middle of the night; but the "memory" of this dream will be shaped during our awaking, in the transitory state which is not sleep and not yet full wakefulness. The author admits it is very difficult to give a conclusive demonstration of this hypothesis which he considers very probable; but he thinks that it can explain the characteristics of dream. In the waking state there is a certain duality in our mind: there is first the subject who thinks—the instrument of thought—then the thought—the product of that instrument. M. Goblot calls the first "pensée-pensante" (thinking-thought), and the second "pensée-pensée" (thought-thought). The functions of the "thinking-thought" are: first, reduction, *i.e.*, the division of the content of consciousness into three parts: the present, the absent, the past; second, the intellectualization of that content; third, the organization of this intellectualized content according to certain laws. These functions cease during sleep; there is no "thinking-thought"; the awaking is precisely the state in which "thinking-thought" recovers possession of itself; it finds disorderly and scattered images; these constitute the dream. This explains the incoherence of dream, an incoherence which is never complete precisely because the consciousness of the dream implies the dawning activity of "thinking-thought." This explains also the predominance of the affective elements in dream; it is chiefly the association by affective analogy which organises the images. Another characteristic of dream is the belief in the reality of its images; it is so because the "thinking-thought" does not utter the judgments of absence: in dream there is no distribution of the representations into three groups, everything is present. It is to be hoped that the author will in the future bring more precision to his interesting theory for, as he says himself, the elucidation of the questions it raises is of the greatest importance for the theory of consciousness and memory. Ch. Lalo: "Ethique et Esthétique." It has very often been stated that the Beautiful and the Good are but one and the same thing. This is because natural beauty and artistic beauty on one hand, natural good and moral good on the other hand, have often been confused. There are, indeed, certain analogies between natural beauty and natural good which allow the identification of both. But if we distinguish on one hand natural beauty, which is "non-aesthetic" from artistic beauty to which alone we can apply the aesthetic judgments, on the other hand natural good, which is non-moral, from moral good, the heterogeneity of Æsthetics and Ethics clearly appears. M. Lalo published last year (*Rev. philos.*, May—June, 1921) another article of great interest: "La fonction individuelle et sociale de l'amour dans l'Art." He wonders why love has such an important place in Art. His answer to this question is different from the one that Freud proposes: that the sexual tendencies repressed by the social organization content themselves with an imaginary activity in dreams and Art. His theory is the following: the chief forms of the social life are the family, the profession, the state, and religion; but these institutions do not completely absorb the various activities to which they correspond; the surplus energy spends itself in activities of luxury which develop beside each of these serious activities; the "raison d'être" of the aesthetic life is to socialize this luxurious expenditure of energy which, if left to the initiative of individuals, might be a cause of social anarchy. For instance, the luxury of the religious life will be the various heretical or mystical movements which develop more or less in spite of authority; the luxury of politics will be in the opposing parties, and in the unlawful activities such as conspiracy, espionage, revolution; what will be the luxury of the sexual life? How will the remainder of sexual energy which is not absorbed by the family be spent? It cannot be spent in the real life, for this would be immoral: therefore it will be spent in Art; the sexual game has to be either immoral or aesthetic, while the game corresponding to the other serious activities can be at the same time non-moral and non-aesthetic. It is, therefore, for social reasons that love and art are so often associated. Several criticisms can be brought against this theory; first of all, is it right to say that love really has such an important place in art as is suggested? Surely this is not so in the case of Greek, Gothic, and Indian Art; again, can the erotic literature, which is produced so abundantly nowadays, deserve the name of Art? Moreover, the fact that the free activity of the sexual energy is immoral does not prevent its exercise. If one objects that society does not allow this free activity to be left entirely to the initiative of the individuals, one can answer that society has, in fact, organized institutions whereby the excess of sexual energy can spend itself. The aesthetic quality is not therefore a necessary condition of the sexual game. This game, as well as the religious or political game, can be played within a special society which exists beside the official one. There is, therefore, a non-aesthetic sexual game just as there is a non-aesthetic religious game, and *all* the games which are the luxuries of serious activities are but " accidentally aesthetic. The aesthetic quality is therefore an independent character which may or may not be added to the sexual as well as to the other games.

(March—April).—P. Fauconnet: " L'oeuvre Pédagogique de Durkheim." The great sociologist founded his Pedagogy on the results obtained by Sociology. The aim of education is the socialization of the young; but each type of society has its own type of education, for it has its own ideal of man. For example, French education in the 20th century, even in its most idealistic and humanitarian attempts, is a product of French civilization. Education is therefore a social thing; it prepares the child for a determined society, not for society *in general*. This is not an incitement to nationalism, for there is no antagonism between social education and human education: internationalism is not less social than nationalism, each nation has its own internationalism, in which its proper genius can be recognized. This conception of education does not attack the claims of individualism, for there is no opposition between the society and the individual. In another series of lectures Durkheim declares himself in favour of a " formal " education: the acquired knowledge must fashion the mind rather than fill it. But the assimilation by the child of positive knowledge seems to him the necessary condition of a real intellectual training: the leading ideas elaborated by our civilization are indeed collective ideas, and they must be transmitted to the child because he would not be able to elaborate them alone.

The *Journal de Psychologie* (Oct.—Nov., 1921) devotes a special number to the problem of language. Though most of the articles are the work of philologists rather than of psychologists, three of them are of special interest to the latter:—(1) Vendrye's " Le caracteré social du langage et le doctrine de F. de Saussure " is an exposition of the theory of the celebrated linguist, F. de Saussure. This theory is unquestionably sociological. Saussure makes a distinction between " speech," an individual action, and " language," a social phenomenon. The object of linguistics is not to study the symbolism of language, nor the physiological mechanism of the emission of words; the linguistic act lies in the association of a psychic concept with an acoustic image, and the proper object of linguistics is to study this link; the result of this point of view is to make linguistics stand as an independent science, apart from psychology on one side and from phonology on the other. Saussure makes another fundamental distinction: the various elements that constitute a language are united only by a "synchronous" link: for the unification of the symbol with the object to which it refers results from a social agreement, and consequently the identity of the symbol and of its object is relatively momentary; synchronous philology is therefore sociological by definition. But the study of the linguistic facts is necessarily "diachronous," since these facts can be observed only across time. All linguistic changes result from an individual act; but a change so introduced into speech by an individual initiative becomes an element of the language only if it corresponds to a collective tendency:—(ii.) M. Roudet, in "Classification psychologique des changements sémantiques," accepts the same conclusion after a criticism of the classifications of the changes that occur in the meaning of words already proposed by the classical linguists, by M. Meillet and by Wundt. Before a thought has found its expression in the spoken language it has first no definite shape, it is only a "dynamic schema," as Bergson says. But the system of the words and the system of the ideas are independent of each other, and if an idea finds no word to express itself it may give rise to a new word shaped after the model of a word already existing in the language, or to a systematic innovation. In this case, the idea expresses itself by a word referring to another idea associated with the first one by resemblance or contiguity; or else the meaning previously attached to a word goes to another word associated with the first one. When this individual result spreads abroad it is aggregated to the language and is called a semantic change.—(iii.) R. Mourque: "La méthode d'Hughlings Jackson et le problème de l'aphasie." H. Jackson has borrowed the notion of automatism from the French psychiatrist Baillarger, and that of evolution and dissolution from H. Spencer; this has allowed him to blend the problem of language with the problem of voluntary activity. The characteristic of aphasia is not, in fact, that the patients are thoroughly deprived of language, but that they cannot make "voluntary" use of it; the words they utter do not correspond to their thought. Jackson has applied to the problem of aphasia the general physiological principle he had discovered: that a destructive lesion can only produce negative effects; the positive phenomena manifested by the aphasic result from the activity of the inferior centers that have escaped from destruction and are now free of the inhibiting action of the superior centers; so that these phenomena are not a manifestation of the injured center, but of the center formerly subordinated to it. But he did not think that, in the actual state of science, the problem of aphasia should be considered from an anatomo-physiological point of view; it remains essentially psychological. On the whole it was the great merit of Jackson to be the first to realise how fruitful the method of philosophical observation can be when applied to the problem of aphasia.